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Spatiality and Teacher Workplace Cultures

**Thesis submitted for Degree of Doctor of Philosophy
Faculty of Education and Languages
and Department of Geography
The Open University**

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Spatiality and Teacher Workplace Cultures

Abstract

Space makes a difference. Although much schooling is spatially constituted, its significance is largely unrecognised in educational research. In this thesis I explore how space is implicated in the construction of the school as a workplace for teachers and other adults.

Empirical case studies of two secondary schools in England employed a variety of methods to explore the spatial orderings that both shaped activity and were produced by it, and the meaning that was made of this. The department proved to be a major location for interactions with colleagues. This demonstrated a need to move from monolithic notions of school culture or even teacher subcultures. Such configurations of teacher interactions were then explored through practice-based theorising in relation to new conceptions of situated learning, including communities of practice. In spatialising these interpretive strategies and integrating a Foucaultian approach to power relations, it became apparent that lateral modalities of power such as collaboration and negotiation are critical elements locating adult learning and work. The crucial importance of context in the associations of teachers is therefore articulated here through spatiality. This is congruent with moves in critical pedagogy to develop more emancipatory relationships through locating practice.

The theoretical lenses afforded by spatiality, including those informed by actor-network theories, are used to focus on multi-layered and complex networks of social and technological relations, constellations of everyday materially-embedded practices extending in complex interrelations beyond what is variably perceived as 'the school'. Spatiality, as space-time, is enacted and constituted through the social; thus the form, location and content of interactions represent a particular nexus of dynamic power relations constituting 'the workplace'. In this formulation, schools as workplaces for adults are spaces continually made and remade.

Dramatis Personae (Pseudonyms)

Brythnoth

Martin Best	Head of art
Heston Billings	Deputy headteacher
Toni Bridges	Art teacher
Steven Calthorpe	Site manager
Sylvia Clent	Headteacher
Richard Docwra	Head of re-integration unit
Beaula Frost	Head of music
Matthew Kester	Head of design & technology
Gillian Mason	Head of food & textiles
Louise Macey	Science lab technician
Martin Miller	Senior teacher & community tutor
Ryan Petrie	Head of year, English teacher
Hilary Radlett	Science teacher
Robert Rawlinson	Head of Science
Steven Rayster	Senior Teacher
Hilary Shaw	Art teacher
Paul Stott	ICT manager
Gregor Talmussen	Head of humanities
Barry Telford	Senior teacher

Kingbourn

Lucy Capelli	Head of art
Alice Clayton	Head of individual needs
Trevor Denman	Art teacher
Jonathan Dexter	Original headteacher
Colin Duchesne	Head of sixth form, maths teacher
Christopher Jordan	Deputy (& acting) headteacher
Colin James	Philosophy & sociology teacher
Sheila James	Geography teacher
Rosie Jakes	Head of sociology

Jane Casey	Geography teacher
Stephen Kendall	Bursar & assistant headteacher
Karina Leathwood	Head of R.E.
Heather Lumley	Head of food & textiles
Harry Manson	English teacher
Gussie Menks	Media studies teacher
Beatrice Meredith	Science teacher
Martin Pyke	Head of humanities
Sue Penney	Reprographics technician
Delphine Proudfoot	Head of chemistry, second in science
Gregg Parfitt	Head of science
Berwick Patterson	New headteacher
Ceri Peters	Head of media arts
Duncan Patrick	Head of drama
Selma Richardson	Lab technician, science
Brian Tuckman	Head of geography
Georgina Venables	English teacher
Ruth Whittaker	Geography teacher (part-time)

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Chapter One - Spatiality, power and schools as workplaces

1.0 Introduction

A school is a place where children go to be educated, an institution where instruction is given, a building where young people receive education. It is also a place of work for adults. The manner in which the school is framed and the metaphors used in education are critical to how we think about what it is and what it might be. Viewing the school differently, through the lenses of spatiality, offers alternative ways of understanding the institution and thence perhaps reconfiguring some of the practices that create it.

In this thesis I argue that space is fundamentally implicated in the construction of the school as a workplace for adults. Rather than a pre-determined *place*, the school is framed as an ongoing accomplishment of relations and everyday, materially-embedded and enmeshed practices, which extend in space-time. It is demonstrated throughout that common conceptions of space as a fixed, physical, container for social interaction are inadequate for understanding what goes on in schools: indeed, the silences around space allow it to be mobilised in producing and reproducing practices which maintain persistent and unequal power relations. Spatiality as the social production and meaning of space provides a new perspective on the association and interactions of colleagues in secondary schools, and thence contributes to a critical interrogation of currently fashionable constructs in education, such as collaboration and leadership.

Different ways of conceptualising space create different possibilities for (political) action. Understanding space as produced through the social reveals current configurations which maintain and ossify power relations in schools, but which can be contested and changed. This thesis is a moment in the ongoing exploration of these

possibilities. The research thus aims to explore the intersection of power and gender in the workplace, through the framework of spatiality, combining three important theoretical perspectives which are substantially absent from much educational literature.

The coincidence of the ‘spatial turn’ in the humanities and social sciences (Massey *et al.*, 1999) and the ‘cultural turn’ in geography (McDowell, 2000) is used as the fulcrum for moves towards re-conceptualising aspects of the school. This is also supported by calls from theorists in critical pedagogy to address ‘*critical ontologies of space*’ in relation to education (Peters, *forthcoming*). The theoretical concerns of the thesis relate to considerations of how practice and relationships may be rethought and enacted, particularly in relation to workplace learning in the associational life of teachers.

The thesis developed from a previous study of teacher collaboration and collegiality in four secondary schools. This suggested that these ways of working were different from each other in form and content as well as conception and, importantly, were more likely to ‘take place’ in certain locations (and with certain people) than others (McGregor, 2000b). The principal inquiry question of the thesis was originally ‘*What are the common patterns and contexts of interaction between secondary school teachers in the workplace?*’ Through engagement with the theoretical advances of the last 25 years in human geography, the question then became ‘What is the influence of the spatial in interactions between teachers in secondary school workplace cultures?’ This informed the early reading strategy and fieldwork plans.

As the theoretical framework developed, every element of that question was scrutinised and reformulated. Subsequent questions emerged; ‘What is the spatial in this conception and how does this relate to the materially-embedded practices that construct the

school?’ ‘What is the school?’ ‘Where/when/what is the workplace?’ ‘How useful are the concepts of culture and communities of practice, currently in vogue in education, in explaining forms of association between adults?’ ‘How are spatial processes gendered and what is the interaction between gender and space?’ It became clearer through interrogating these concepts that it was not the *influence* of the spatial (implying a fixed container for various configurations of interaction), but the *spatiality of the school as a workplace (for adults)* that I was examining through the research process. Thus there was a return to the original intent of exploring collaborative working, through an evolving understanding of context as spatiality.

Collaborative cultures, communities of practice and learning organisations are part of the educational zeitgeist in school reform literature and policy documents, but while there have been theoretical advances, there is relatively little work on when, where and how they operate *in practice* within education. I argue that these new orthodoxies in education lack both an understanding of the possibilities of a spatial perspective and a corresponding analytic of power. This thesis models a cross-curricular and relational approach by synthesising a number of literatures, to interrogate current formulations of the associational life of schools and suggest ways to make meaning of that through spatiality. It is thus a hybrid space in which various theoretical and empirical trajectories collide or run in parallel – or orthogonally!

Relational understandings of space arising from critical geography indicate the value of re-articulating context through spatiality. Rather than being pre-given and simple to change, it is suggested that context (as spatiality) is emergent and recreated through interaction. I also draw on elements of organisational theory to critique current notions of (school) culture or sub-cultures, which suggest self-contained and bounded groups.

Exploring the associational life of adults in school through the practice-based theorising around situated learning and actor networks further illuminates the critical importance of space. Empirical work from two case study schools illuminates the need to spatialise models such as communities of practice in education.

In this relational thinking, spatiality comprises power relations. Through locating adult associations (*where, when and how* they interact), the school as a *workplace* is investigated through attention to everyday and materially-embedded practices which are relations of power. I employ an understanding of power as a constellation of relations (Foucault, 1988) rather than a reified possession. This frames interactions such as collaboration and negotiation as lateral modalities which operate in particular space-times (Allen, 1999). These relate to capacities to develop practice through opportunities for collective work and learning.

This chapter highlights the lack of consideration of space in education, despite the burgeoning spatial metaphors described later. It scrutinises spatial concepts developing in critical theory throughout a range of sociological approaches and reviews orthodox understandings of space in relation to schools. A Foucaultian conception of power (1980b) is employed to indicate how space and other technologies of power are mobilised to keep the relations of schooling ‘in place’. This is reviewed in a short genealogy of the classroom.

The relational and interpretive stance of the thesis is manifested in the ontological and epistemological propositions informing the methodological decisions described in chapter two. Through introducing the case study schools (Brythnoth and Kingbourn), the third chapter argues for a spatial and ‘topological’ approach to understanding

schools as workplaces, employing Nespor's conception of the school as '*an intersection in social space, a knot in a web of practices that stretch into complex systems beginning and ending outside the system*' (Nespor, 1994, p. xiii).

The empirical findings of the study on patterns and locations of association between staff are introduced in chapter four, which explores the frame of teacher cultures and suggests where we might look for spaces of collaboration in the workplace. Chapter five argues that situated learning in communities of practice is also a useful model, but presses the need for a greater consideration of power relations expressed as spatiality. This is developed in chapter six, which explores how space is constituted through the social in the construction of the department as a particular nexus of relations. Similarly, context as created through inter-relations is the subject of chapter seven, which considers Actor-Network Theories as a means of understanding the relational effects of patterned heterogeneous networks. Although gendered power relations are considered throughout the thesis, chapter eight focuses on space as active in the construction of gender. The concluding chapter reviews the claims made for the utility of a spatial perspective on schools as workplaces and, drawing on critical educational theory, proposes practical outcomes from the thesis.

2.0 Schools, space and the workplace

In a world increasingly characterised by change, diversity and complexity, educational institutions, like others, are aspiring to become ‘learning organisations’ (Silins & Mulford, 2000; Leithwood & Louis, 1998). The ‘knowledge economy’ is also apparently crucial (Hargreaves, 1998), but schools as workplaces for learning appear to remain peculiarly static. Caught in a tension between reproducing the past and preparing for the future, the majority exhibit a physical, organisational and social architecture that has changed little in the last 150 years. I suggest that the workplace associations of teachers and other adults in school are powerfully influenced by such configurations. Conceptualising their interrelationship through spatiality contributes to the possibilities for transformation of practice and relationships.

The architecture of schools and classrooms embodies particular ideologies of education and pedagogy through its physical arrangement and the recursive interaction with social space, mobilised through timetables, rules and other habitual organisational practices. Space has a ‘taken-for-granted’ quality that blinds us to the fundamental ways in which the school is spatially constituted. The almost ubiquitous orderings of classrooms, laboratories, staffrooms and playgrounds in secondary schools obscures the way in which the setting is active in social production and reproduction. Although we experience (and create) space and place continually as part of our everyday lives, the role of the spatial in *actively* shaping them receives little of our conscious attention. Nevertheless, as Shields notes:

‘Spatial relations are constantly overcoded with social significance. Except to sociologists and geographers it comes as no surprise to most people that the where and the when of events are as significant as what those events are’

(Shields, 1997, p.187) (author’s emphasis).

It is this everyday significance to those inhabiting schools that is examined throughout the thesis. The following section outlines the conceptions of space and place informing these considerations.

2.1 Producing ideas about space and place

'The present epoch will perhaps be above all the epoch of space. We are in the epoch of simultaneity: we are in the epoch of juxtaposition, the epoch of the near and far, of the side-by-side, of the dispersed' (Foucault, 1986, p.22).

Although a central concept in human geography, drawn on in a wide range of social theory, *'space is notoriously hard to define'* (McDowell & Sharp, 1999, p.257). It is theorised in a variety of forms. In modern social science the critical importance of space as socially constructed was largely unrecognised until the emergence of a Marxist-inspired radical geography in the 1970s (Morgan, 2000b). This demonstrated, for example through the work of Harvey (1989) and Lefebvre (1991), that the view of space as a passive container for society was an historical construction related to the exercise of economic power through capitalism. Lefebvre proposed that space is a social product, and space and society mutually constitutive.

Human use, organisation and imagination thus transform Euclidean space into social space which is simultaneously material and social, *'a set of relations and forms'* (Lefebvre, 1991, p.116). This new understanding of space as a product of such interrelations, constituted through processes of interactions, suggests the relationship with power:

'(Social) space is a (social) product. Space thus produced also serves as a tool of thought and of action. In addition to being a means of production it is also a means of control, and hence domination, of power; yet...as such, it escapes in part from those who would make use of it' (Lefebvre, 1991, p.26).

Lefebvre conceptualised this through three moments; spatial practices (the perceptions and routinised production of space), representations of space (codifications such as maps or plans) and representational space (symbolic use, articulated through cultural products). Soja (1989) drew on the spatial writings of Foucault and Lefebvre to argue for the reassertion of space as a 'socio-spatial dialectic' in critical social theory.¹

Radical geographers have shown that the production of space is always tied up with questions of power, and during the 1990s the importance of 'power-geometries' of alignment along axes such as gender, ethnicity and sexuality (as well as class) were demonstrated (Keith & Pile, 1993; Massey, 1993; Rose, 1993a). Such work emphasises the production of space linked to the production of identities, so places are constructed through competing spatialities. Spaces may thus be organised to keep 'others' 'in their place' (Morgan, 2000a). It is these conceptions that I employ in moving to an understanding of the school as spatially constructed.

In the same way that space has been relegated to the realm of the fixed and the dead in contrast to the apparently generative nature of time (Foucault, 1980; Massey, 1994),

¹ While an engagement with the genesis of current thinking about space informed this work, I do not intend to address it in depth in the thesis (Soja, 1989; Gregory *et al.*, 1994; McDowell, 1994; Keith, 1993; Massey *et al.*, 1999; McDowell, 2000; Richards & Wrigley, 1996; Rose, 1993b; Soja & Hooper, 1993).

place is commonly understood as a bounded static region, rather than as a product and producer of relations. *Workplace* interactions are social relations which are generally explored through the organisational perspective of patterned relationships and forms of association, or a cultural approach characterised by consideration of habits and ways of doing things which reflect substantive attitudes, values and beliefs (Hargreaves, 1992). In this thesis I use conceptual tools developed through social geography to make more sense of these orthodox organisational and cultural perspectives in relation to the workplace of the school. Places are understood as fluid, contested and uncertain:

'It is socio-spatial practices that define places and these places result in overlapping and intersecting places with multiple and changing boundaries, constituted and maintained by social relations of power and exclusion'
(McDowell, 1999, p.4).

In this conception, place is a unique articulation of social networks, relations and understandings, extensive in space-time. Workplace relations are also interrogated through the making of meaning *'as embodied, (and) constructed, transmitted, negotiated and embedded within social practices'* (Lankshear *et al.*, 1996, p.175) (author's emphasis).

There are some basic assumptions in this thesis: that social life is relational and that relations are constituted by power, with power articulated through them. In exploring this as the recursive relationship between physical and social space, I am not seeking simply to uncover hidden geographies of power (Keith & Pile, 1993) but also to demonstrate that space is more than merely a backdrop to position and social interaction. Drawing on Berger, Soja emphasised that:

'We must be insistently aware of how space can be made to hide consequences from us, how relations of power and discipline are inscribed into the apparently innocent spatiality of social life, how human geographies become filled with politics and ideology' (Soja, 1989, p.6).

Space thus hides things from us, through our lack of understanding of it as constructed and contestable. This is particularly the case in secondary schools, which are often well away from the gaze of the adult public, yet where space is continually mobilised to maintain power relations.

Soja (1989) suggests that the significance of space is obscured by two illusory perspectives, one of opaqueness and one of transparency. The *'illusion of opaqueness'* (which is essentially empiricist) focuses on immediate appearances - where spatiality is reduced to a collection of things which *may* be linked in some way to social causation. Separating space and time and privileging the latter thus allows the spatial organisation of society to be presented as inert and uncontested. *'Lost from view are the deeper origins of spatiality, its problematic production and reproduction, its contextualisation of politics, power and ideology'* (ibid, p.124).

In addition, Soja suggests that the *'illusion of transparency'* looks right through *'the concrete spatiality of social life'* so spatiality is represented as *'a mental construct alone'*, an abstraction which can be known, mapped, which detracts and distracts from *'materialised social realities'* (ibid, p.125). Rose further argues that this combination of penetrating gaze, and knowable, transparent space is structured by a particular masculinity. In critiquing Hagerstrand's time-space paths she suggests that such

'Transparent space mimics the public space of Western empowered men, its violence repressed' (Rose, 1993b, p.76).

The formulation of spatiality employed in the thesis is derived from the influential work of Massey which extends these understandings of spatiality as the product of intersecting social relations, and powerfully develops the idea that space and time are mutually constituted (Massey, 1999a, 1999b). She proposes that space *'must be conceptualised integrally'* as space-time, where the specifically spatial is *'an inherently dynamic simultaneity'* (Massey, 1994, p.2-3). As: *'a moment in the intersection of configured social relations'* (Massey, 1994, p.265). Space is then:

'the product of intricacies and the complexities, the interlockings and the non-interlockings, of relations from the unimaginably cosmic to the intimately tiny. And precisely because it is the product of relations, which are active practices, material and embedded, practices which have to be carried out, space is always in a process of becoming. It is always being made' (Massey et al., 1999, p.283).

Thinking in this way produces a dynamic and politicised understanding of space, it challenges the view of places as pre-existing and bounded, replacing it with an open conception of place as hybrid, provisional and porous.

As products of our social interactions, space and place are constructed through materially-embedded practices and networks of social understandings. These create and maintain everyday social relations (which are relations of power) in schools, whether of domination and resistance, co-operation, or competition, including those constructing gender (or through which it is performed) (Rose, 1999). Power is partly expressed

through interpersonal interactions which are often taken for granted, such as talk and joking, planning work together or the playing out of imposed forms of performance management. This aspect of spatiality as configured relations is a 'power geometry', where individuals or groups are placed in distinct ways, often in tension, in relation to the networks of social relations and power (Massey, 1993, 1994).

In the conception of space employed here, schools are dynamic, fluid 'geographical achievements' - the practices performed in that space-time (Philo & Parr, 2000). However, schools are organised in terms of formalised (as well as informal and unrecognised) objectives and so practices are regularised, sedimenting social relations in time and space - with their inscription recursively acting on their ongoing construction. Hence, 'formalised' spaces such as subject classrooms result from the build-up of resources, which leave less room for actors to change established practices (Tooke, 2000). It is this 'concretisation of power' that people perceive as space, rather than the processes which construct and maintain it.

2.2 Schools, space and metaphor

The lens employed to make sense of the workplace influences the view of the possibilities and constraints of colleagues working together and what may be accomplished through that. Similarly, metaphors have an impact on the way we see the familiar world of the school. Education is dominated by temporal metaphors about movement and progress, although there is an abundance of spatial tropes which indicate particular approaches to schooling and learning, (Paechter, *forthcoming*; Edwards, 1999; Edwards & Usher, 2000). Spatial metaphors such as 'fields' and 'boundaries' have become dominant in social theory where, as Smith and Katz point out,

'Theoretical spaces' have been 'explored', 'mapped', 'charted', 'contested', 'colonised', decolonised', and everyone seems to be 'travelling' (Smith & Katz, 1993, p.68). For Foucault, spatial metaphors were particularly generative:

'Endeavouring on the other hand to decipher discourse through the use of spatial, strategic metaphors enables one to grasp precisely the points at which discourses are transformed in, through and on the basis of relations of power' (Foucault, 1980a, p.70).

This study aims to identify these potential points of transformation where teacher interactions and situated learning mediate wider discourses through the operation of different modalities of power.

In education literature on school improvement and reform, the influential description of *'egg crate schools'*, with isolated teachers working privately in cellular classrooms, reflects the physical plan of many schools. However, this takes little account of context and denies the permeability of the classroom and school to other influences (Lortie, 1975, 1998; Acker, 1999). Likewise the metaphor of *'organised anarchies'* of schools as loosely coupled organisational systems (for example, of departments) fails to account for intra and inter-school linkages and groupings (Weik, 1988). Some metaphors commonly used by the government or media, e.g. *'sink'* or *'bog-standard schools'*, pathologise social context as deficit (Thrupp, 2001); while others such as *'community'* (Fielding, 1999), *'webs'* (Nespor, 1997) or *'ants' nests'* (Gordon & Lahelma, 1996) of movements and flows emphasise the relational through interaction and connection. Such metaphors reflect and frame conceptions of workplace practice. Sergioanni highlights the importance of this:

'Changing the metaphor for the school from organisation to community changes what is true about how schools are run, about what motivates teachers and students, and about what leadership is, and how it should be practised'
(Sergiovanni, 1994, p.217).

Demonstrating the utility of metaphors or constructs (such as ecology or communities of practice) in explaining what goes on in school helps make the familiar unfamiliar, and may open up spaces for dialogue and different ways of working together as colleagues and pupils (Fielding, *in press*). This responds to the increasingly insistent call from critical theorists in education to develop a 'critical pedagogy of space' with which to challenge the dominant 'spaces of enclosure' which characterise modernist educational practices (Peters, 2003; Morgan, 2000b; Lankshear *et al.*, 1996; Edwards *et al.*, 2002).

The literature of critical pedagogy over the last decade has been especially rich in spatial references and metaphors such as 'border crossing' (Giroux *et al.*, 1996). Metaphors may provide 'spaces' for troubling binaries and reconfiguring apparently pre-given boundaries (e.g. school/home) (Edwards & Usher, 2000). Nevertheless it is important not to blur distinctions between different meanings of space. Some geographers argue that much engagement with space in social science is actually with metaphor. Smith and Katz (1993) suggest that spatial metaphors are only problematic in that they appear to suggest that space is not. The main frames of spatiality that I work with in the thesis seem particularly appropriate to develop understandings that are currently stimulated by spatial metaphors.

2.3 Interactions constructing the school

The emphasis of the study is on the everyday interactions that help construct the school as a workplace for teachers. The importance of the associational life of staff for outcomes and school reform has been documented by large-scale American studies (Rosenholz, 1989; Louis and Kruse, 1995; Useem *et al.*, 1996). Strong, professional, communities were seen to be built through teacher interaction, opportunities for reflective dialogue, peer observation, joint work and inquiry focusing on student learning. At a different scale, there are a limited, but growing, number of qualitative, ethnographic studies of teachers' workplace culture, mostly focused on primary schools (Acker, 1999; Nias *et al.*, 1989). This thesis draws on both traditions, in a multi-method approach, and thus contributes to the current debate on the value of collaboration further explored in chapter four (Fielding, 1999c; Hargreaves, 1999; Thomson, 1999; Little, 1999).

There is growing recognition of the importance of *contextualising* teachers' work, with contexts variously interpreted as organisational structures, education governance and policy, social class, and leadership (Brimicombe, 2000; Helsby, 1999; Louis & Marks, 1996). Teachers particularly cite their pupils and colleagues as a critical context for their work. (Nias, 1989; Little, 1999; Nespor, 2001). McLaughlin and Talbert describe the multiple theoretical lenses used to focus on school teaching in sociological research, dividing these into '*institutional contexts outside of school systems*' referring to broad social, economic and political systems subsuming subject disciplines and local community cultures; '*school administrative contexts*', including the subject department and local education policies; and the '*social systems context*' of relationships in the school as a workplace. Although represented by concentric rings, they point out that this

is not a nested hierarchy of influences, but multiple '*embedded contexts*', with interactive and transactive relationships affecting teachers' work. (McLaughlin & Talbert, 2001, p.142).

This model helps to break down the difference between 'macro' and 'micro' settings of teachers' work lives, in order to explain how teacher communities in apparently similar organisational, cultural and political contexts can develop substantially different professional cultures and patterns of association. However, a nested model predicates an even transmission of influences; '*an embedded context framework assumes that multiple context conditions are interpreted and acted upon by social groups in subject departments and other school settings*' (McLaughlin & Talbert 2001, p.145). In moving away from the notion of generic reform innovations encountering spatially and temporally discrete 'contexts', Nespor (2003) demonstrates that an active conception of context is crucial to understanding how it is mutually constituted with reform. The so-called contextual elements are then part of the reform process. A network understanding of schooling processes is explored further in subsequent chapters, to build on the notions of spatiality in play.

3.0 Conceptions of space in relation to schools

As an element of the 'spatial turn' in areas of social science, there is increasing interest in studying institutions. This literature has been selectively drawn on to inform this study. Institutions may be theorised as '*precarious geographical achievements*', made and remade by configuring practices and therefore open to change: '*not pre-given entities but accomplishments whose temporal and spatial co-ordinates are far from incidental to what can (or not) be accomplished*' (Philo & Parr, 2000, p.192). One of

the few published contemporary geographical studies focusing on schools identifies '*multilayered-institutional cultures which are- shaped by official school policy, teacher practice and pupil culture*' within a series of overlapping space-times (Holloway *et al.*, 2000, p.617). The policy on consultation and decision-making of one of the study schools actually begins with the statement: '*schools are complex multi-dimensional organisations*' (Kingbourn Handbook, 2001, p.11). However, the notion of space being created reciprocally with social interaction has been almost absent in literature on education until very recently (Edwards & Usher, 2000; Gordon *et al.*, 2000a; Nespor, 2002). The most common understandings of space are as the fixed physical environment or social space enacted within that. These perspectives will be described in this section, which ends with a focus on the spatiality of the school.

3.1 Space as the physical environment of the school

Given that it is almost axiomatic that space as the physical environment of a school will affect the teaching and learning within it, there has been little research on this in the UK (Clark, 2001). The Office for Standards in Education (Ofsted) 1999-2000 annual report states that one quarter of the state secondary schools inspected in England and Wales had accommodation so unsatisfactory that the curriculum was affected. Clark (2002b) suggests that this reflects a *status quo* of poor quality school environments, leading to low expectations being normalised. However, the importance of the physical aspect of schools is consistently recognised by pupils (Schratz & Steiner-Löffler, 1998).

Following the post-war period of school building, the neglect of physical environments in education over the last quarter century corresponds to the lack of concern in educational research where, reinforced by a binary approach, cultural and organisational

factors have been privileged over structural, physical ones. There have, however, been studies focusing on functional issues such as health and safety and, recently, more ethnographic work providing insights into the different ways boys and girls use space in schools (Gordon, 2000; Comber, 2001; Gallagher, 2001). A major multi-method study commissioned by the DfES also found evidence of a positive relationship between capital expenditure and pupil performance, but such work highlights how physical conditions can only be seen to indirectly affect student outcome, with schools varying greatly in how they respond to the physical conditions available to them (Pricewaterhouse-Coopers, 2001a).

Indications of increased interest in the relationship between the physical environment and performance in the classroom and recognition of the need to engage with this is reflected in investment programmes in school buildings nationwide. This mirrors similar moves internationally (Younge, 2000; Fisher, 2002a). Of course, private schools have long recognised the importance of physical appearance, with leafy grounds and attractive ivy-clad buildings echoing ancient elitist institutions such as Oxbridge. Davies (2000) illustrated this in contrasting the environments of a Sussex school on the Whitehawk estate and nearby Roedean, where five times the amount of money is spent on resources for each pupil.

Internationally, there is a considerable amount of research into the physiological effects of particular environmental variables on classroom teaching and learning, measuring elements such as personal space, territoriality, physical comfort and mobility. A recent survey of international school design research identified 300 such studies. These indicate that student behaviour and academic achievement can be raised by improving environmental factors such as lighting, acoustics and air quality (Fisher, 2000; Tanner,

2000a, 2000b). However, such studies are substantially located within a positivist environment–behaviour paradigm which fails to critically question the role of space and place in education.

Currently there are indications of a more qualitative approach to the influences of school space on learning (Clark, 2002). Following a study of the move of Bishop Black school to new premises, Golby and Appleby (1997) appeal for further enquiry into the social needs of pupils and teachers and how these relate to educational achievement. They suggest that Weinstein's (1989) notion of an 'ecological perspective' should be employed to explore spatial behaviour in schools through studying patterns of association and the meaning and impact of school buildings and grounds to those 'within them'. There are thus calls for a more holistic approach to research on school space, with the aim of identifying *'pedagogic, psychological and social variables that act together as a whole to shape the context in which learning takes place'* (Clark, 2002, p.12). However, this does not address the dynamic simultaneity of context as spatiality.

There are also individual projects that aim to explore the relationships between people, place and school design in a more emancipatory fashion. For example, the School Works project set up in association with the Architecture Foundation and Demos, involves a participatory approach bringing together diverse school users and design professionals to redesign and rebuild schools. They began with the question:

'Why, in this changing world, the structure of the school day still operates in the manner of the 19th century? We ask how the school building itself represents a hidden form of curriculum, and how behaviour is affected by design' (School Works, 2001, p.2).

There are also proposals to set up a 'Learnspace Institute' in the University of South Australia which would focus on the interactivity between the built environment and learning through action-research projects in schools (Fisher, *forthcoming*).

Despite surveys of workplace conditions suggesting its importance, the role of the environment in teachers' work has also received little attention. Studies rarely go beyond suggesting the need for better physical conditions to improve motivation and job satisfaction, and enhance teachers' work effectiveness. However, recent research on American high schools concluded:

'The arrangement of space has immediate and far reaching consequences for teachers' ability to effectively and efficiently accomplish daily activities, the formation of social and professional relationships, and the sharing of information and knowledge' (Siegel, 1999, p.4).

In questioning how considerations of space have become so divorced from understandings of the school, Fisher (2002b) persuasively cites the hegemonic influence of architects and the exclusion of teachers and pupils from the design process. This compounds what he suggests is a lack of awareness of the power inherent in spatial relations hence the failure to develop a critical spatial literacy. Jacklin (2000) also explores the notion of the influence of a binary of structure/culture where 'resources' are seen as the separate province of administration rather than integral to work in the classroom. Fisher, an international architect of educational institutions, notes: *'We still do not understand the power relationship(s) between learning environments and space and whether or not the physical learning environment is related in some way to the pedagogical process'* (Fisher, 2002b, p.4). The influence on teaching and learning is of

fundamental importance to the outcomes of this thesis and the direct links to the spatiality of classroom are discussed more fully in chapter three.

3.2 Space as a container of school culture - Social space

‘Social space’ is a familiar term. ‘My space’ is often invoked by individuals, and spatial metaphors such as journeys are frequently used in describing work in schools (Edwards, 1999; Gordon & Lahelma, 1996). There is also an increasing use of the terms ‘learning spaces’ or ‘spaces for dialogue’, although the conceptual provenance of the words is generally unclear. The social relations which constitute the school as a workplace are frequently approached through the concept of culture (or climate, ethos etc.). I argue in chapter four that ‘school culture’ has been commonly represented as monolithic and undifferentiated, a reified medium for engineering change and improvement within the school (Hargreaves, 1995; Stoll, 1999), which is itself presented as decontextualised. However, the importance of school ‘subcultures’, largely of teachers or pupils, has been increasingly recognised over the last decade of research in schools (Angelides & Ainscow, 2000; Prosser, 1999; Hargreaves, 1994; Siskin & Little, 1995). This points to the need to investigate patterns of interaction further using different frames.

Teachers derive a sense of identity and self-worth from their association, possibly at different stages of their careers, with a variety of work groups which will influence their conceptualisation of pedagogy, subject matter and the way they work together (Datnow, 1998; Nias, 1985, 1998; Paechter, 1995, 1998a). This reflects and produces a complex web of relationships, intersected by age, gender and ethnic origin etc. Certain ‘groups’ (e.g. newly qualified teachers) are commonly under-represented in what are characterised as structural ‘positions of power’ and so may be excluded from formal

decision-making and taking (Bailey, 1996). Investigating power as a constellation of relations and leadership as a process offers new and potentially emancipatory understandings of how relationships between staff can be developed to encourage greater equality.

Spatial and temporal orderings are fundamental to the school as we know it. Teachers in secondary schools are often classified by subject speciality, and grouped spatially and organisationally within departments, which may give rise to competition, leading to ‘balkanisation’, contests over boundaries and tensions over ‘whole school reform’ (Hargreaves, 1994; Hannay & Lum, 1999). Departments or faculties are highly influential in organising space-time practices in characteristic ways which impact on teachers’ ways of working together and the experience of schooling for students (Ball and Lacey, 1984; Harris, 2001a). However, until relatively recently, this aspect of school organisation and level of analysis has received little attention (Grossman and Stodolski, 1999), as discussed in relation to one of the study schools in chapter six. Approaching schools, departments or classrooms as materially-embedded but extensive networks of relations (as discussed in chapter seven) potentially dissolves notions of scale in relation to the location of reform efforts.

3.3 Spatiality and schools

The ‘box-like’ structures of individual classrooms are a persistent spatial form, although the concept of spatiality employed here suggests they are actually far more permeable than is at first apparent. Constructing ‘the school’ as a self-contained and bounded entity with clear boundaries, a ‘modernist space of enclosure’ (Lankshear *et al.*, 1996), performs the function of enabling wider socio-economic problems to be re-

territorialised as 'school problems'. This arises from a particular way of constructing 'the local' as spatially and temporally discrete and bounded (Nespor, 2002). It is also the way in which school cultures are generally (and imperfectly) understood as homogeneous within spatio-temporal boundaries, contained by the physical entity of the school (McGregor, 2001). 'The school' or 'the classroom' becomes a reified location which stands for the social, economic and political processes and organisation which actually *constitute* it (Shields, 1997).

The spatiality of schools reflects the construction and mediation of social relations where individuals and groups are differently positioned within a series of 'power-geometries' in relation to flows of influence (Massey, 1993). The operation of the school follows certain (remarkably common) patterns where staff and pupils are distributed, and their actions circumscribed in space-time, by the timetable which determines access to physical spaces, support staff and pupil time. Such dispositions demonstrate the priorities of the institution, reflecting national requirements and local pressures. They may also illustrate competition for scarce resources and the power exercised by certain subgroups such as faculties, or individuals. Thus are power relations inscribed into the space-time patterns of the school day as 'maps' or diagrams of power (Paechter, 1995).

The organisational structure of the school is clearly expressed through the arrangement of physical space, the time allocations for activities and the construction of the curriculum privileging certain subjects. In their everyday work in the classroom, teachers are often physically and temporally separated from colleagues in the 'egg crate structure' taken by Lortie and later commentators to encourage privatism and conservatism, with relatively little opportunity for collegial exchange (Little, 1990a;

Fullan and Hargreaves, 1992; Lortie, 1975). In this way secondary schools are seen to act as modernist operations with separate, enclosed, units operating within a loosely-coupled system. Exploring spatiality troubles such notions.

The timetable imposes rhythms and constraints on all bodies within a repetitive cycle, and many school rules and practices are connected to spatiality and embodiment. They determine the use of space by pupils, by for example excluding them from certain areas, and regulate their movement and expected actions within particular spaces at different times. Teachers then draw upon this production of space in demonstrating their authority and maintaining dominance, as in controlling entry and exit conventions to classrooms, lighting and noise levels, as well as regulating the activities and timing of the lesson (Shilling, 1991; Gordon & Lahelma, 1996). Conversely, pupils may use space to construct their own resistances (Willis, 1977) as indeed may staff.

Notions of hierarchy are further embedded in the compartmentalisation of areas of the school, such as the administrative office or the gym (Gordon *et al.*, 2000a). The staffroom is generally constructed as a space where pupils are excluded. In the staffroom, or rooms, staff meet socially and more formally and ‘work’ in a variety of ways, from complaining about pupils to planning joint projects (Little, 1993; McGregor, 2000a). The staffroom could be characterised a ‘back region’ where teachers can recover the autonomy which may be compromised in the frontal contexts of the classroom (Goffman, 1969). Resistance and protection of personal and professional identity may be played out through storytelling and joking as teachers relax together. Hegemonic discourses may thus also be created and reinforced (Hammersley, 1984a; Mac an Ghail, 1994). Of course, life is not so simple, and the staffroom is also a ‘front

region' for individuals wishing to impress their peers or mentors through performances of competence or virtuosity.

Staffrooms are generally made up of a number of locales - different networks and sub-groups of teachers - where a variety of power relations may be played out and reproduced (Burgess, 1983; Paechter & Head, 1996). In spatial terms, they are distinctive places, constructed from a unique constellation of relations. That the staffroom is not simply the physical space was clearly demonstrated by the contrasts in use between the two schools in this study and the interaction between the spatiality of the main staffroom and departmental office spaces. Gendered and age-related power relations are often in evidence in staffrooms, for example through gender joking and the appropriation of space and resources (Cunnison, 1989; Datnow, 1998). This is possibly where social relations most clearly mirror and reveal the present and past micropolitical structure of the school, embodying work relationships that have developed through time-space (Ball, 1987; Kainan, 1994; O'Boyle, 2001).

Large scale surveys show that a major factors affecting teachers' work is time to meet and talk. Physical proximity, interdependent roles 'teacher empowerment' and communication structures are also identified as important (Louis and Kruse, 1995). The day-to-day running of the school, sharing information or planning, and working jointly are largely conducted through informal and formal daily and weekly meetings of various kinds. These also provide opportunities for the exercise of micropolitical powers and resistances. While meetings may be timetabled into the day, they are more frequently held before and after school, at a variety of times and places and with different groups. Such patterns of interactions are crucial in understanding the spatiality of teachers' work to different effects (McGregor 2000a).

Much of the educational literature on the school as a workplace is androcentric in its gender-blindness, despite the critical importance of gender as a category or marker. It too often fails to question either gender relations between teachers, the social construction of gender identities in the workplace, or the relationship with reform (Hubbard and Datnow, 2000; Datnow, 1998; Robertson, 1992). Likewise, initial conceptions of spatiality in geography were largely unproblematised in relation to gender, sexuality etc. (Massey, 1994; Rose, 1993a). To counter this, I draw on a small but developing literature, which theorises organisations as embedded with gendered meanings and embodied performances of gender, often saturated with male power and values² (Acker, 1990; Gherardi, 1994; McDowell, 2001; Rothschild & Davies, 2000).

Although the ‘moral panic’ over boys’ underachievement keeps gender apparently on the agenda (Arnot *et al.*, 1999), teachers in schools frequently fail to acknowledge or recognise gender as a significant dimension to their pedagogy, workplace interactions, or even identity (Kenway *et al.*, 1998; Younger *et al.*, 1999). However, work throughout the social sciences and education increasingly emphasises the importance of schools as major sites for the production of, and arbitration between, different masculinities and femininities, and sexualities, constructed through everyday practices (Acker, 1994; Connell, 1993; Lesko, 2000; Connell, 1987; Kessler *et al.*, 1987; Epstein, 1997; Paechter, 1998a).

There are signs of a growing awareness of, and interest in, the implication of space in the formation of (unequal) gender relations in education (Gordon *et al.*, 2000a; Nespor, 1997, 2000c; Shilling, 1991). This recognises that social space is reciprocally constructed, with gender regimes in schools shaping a distinct environment of gender

² As described in McDowell’s (1997) empirical study of merchant banking and subsequent analysis of masculinities differently located in the power geometry of workplace social practices (McDowell, 2001).

relations and the space for playing them out. For example, (some) males have been shown to 'take up more space' through their physical movement, appropriation of resources (including teacher attention) and domination of informal and recreational space (Askew and Ross, 1988; Paechter, 1998a; Thorne, 1993). In his ethnographic study of Parnell School, Mac an Ghaill identified the importance of specific spatial contexts such as classrooms and the staffroom which were active in the construction of sex/gender discourses, notably a compulsory and hegemonic, heterosexual, masculinity (Mac an Ghaill, 1994; Martino, 1995). This is an important dimension throughout the thesis, but it is specifically addressed in chapter eight.

4.0 Space, power and schools

This section develops the argument for investigating schools through the spatiality of power relations in addition to current models of educational institutions. School buildings are inscribed with educational ideologies and practices. The fabric is a chronicle of change and use resulting from the network of relations (local and global) which comprise 'the school' (Lawn & Grosvenor, 1999; Brand, 1994). Power relations are etched into the spatiality of the classroom. The school may be seen as an instrument of capillary power - constructed over time through daily institutionalised practices. The durability of the classroom as an assemblage of materially-embedded relationships and techniques of power (Law, 2001) may be the result of the deep conservatism of spatial solutions, applied by architects rather than educationalists (Markus, 1993; Fisher 2002b). It is also allied with the way in which contemporary radical interventions such as the National Curriculum have presented the *impression* of constant change thereby obscuring the powerful continuities.

Studies in education traditionally either ignore power, assuming a neutral moral structure, or view it as positional, exercised by those 'in authority'. In a lexicon of 'The Philosophy of Education' (Winch and Gingel, 1999) it does not even appear as a key concept. Until recently, work in educational research, particularly that in management, framed schools as modernist organisations with a focus on goal coherence, rational choice and consensus (Blase and Anderson, 1995). Such traditional normative theories lack grounding in the everyday, messy, contradictory realities of life in schools. Hence, prescriptions and policy recommendations can be made on the basis of a rational, controllable world that does not exist, and thence 'context' blamed for the failure of generic reform (Fullan, 1999; Hargreaves, 1997; Nespor, 2002).

In contrast to the decontextualised accounts of the orthodoxy of school effectiveness (which arguably ignores power and gender relations altogether), ethnographic studies of schools illustrate the complexity and dynamism of such relationships (Davies, 1994; Fielding, 1997; Lauder *et al.*, 1998). They highlight the manner in which power operates at the level of micro-relations and resistances, and may be expressed through contests over organisational space and hegemonic versions of masculinity and femininity (Ball, 1981; Mac an Ghaill, 1994). A focus on this level of individual and group interaction characterises a micropolitical analysis of relations, which deals more closely with the everyday realities of worklife in schools. This perspective challenges the traditional consensus models of organisation, emphasising activities such as negotiation, conflict and control which operate at an interpersonal level, rather than as formal procedures (Ball, 1987; Wallace and Hall, 1997).³ While the importance of space in power relations is implicit in relation, for example, to the staffroom, '*the socio-morphology of conflict in schools*' (Ball, 1987 p.78) the genre is not inherently

³ Further dimensions, such as the importance of affective relations and dynamics are also increasingly highlighted in research (Avila deLima, 1998; Nias, 1998; Hargreaves, *forthcoming*; Sachs, 1998).

spatialised. Power relations are the basis of much (gendered) organisational behaviour and I would suggest that the study of micropolitics requires an even richer and more complex character than traditional conceptualisations provide

4.1 Conceptions of power and leadership

Congruent with the 'spatial turn' in the social sciences in general, Massey *et al.* (1999) note a resurgence of interest in power with spatiality increasingly used to rethink power relations. A number of questions may be raised about how thinking spatially might contribute to an understanding of the workings of power. How do power relations construct spatiality? How does space affect the operation of power? What are the key practices or modalities through which power - as an effect - operates through space-time (Allen, 1999; Law, 1992)? How then, does space make a difference?

A Foucaultian conception of power as a constellation of relations, rather than a possession (Foucault, 1978) underpins the thesis and is discussed in the next section. The premise is that if power operates at the level of micro-relations and resistances, it may be expressed through control over organisational space and also spatial expressions of hegemonic versions of masculinity and femininity. Research into relations within a school inevitably '*raises questions about the location and interaction of different levels and kinds of power*' (Paechter, 1998b, p.97). As this investigation developed, informed by recent work in human geography (Allen, 1999; Robinson, 2000; Sharp *et al.*, 2000; Tooke, 2000) an emerging conception of collaboration, negotiation and other forms of association as lateral modalities of power confirmed the decision to focus on the interactions of particular departments in the two study schools.

Traditional accounts characterise power as a possession that can be held and wielded over others, in a relationship of domination. Power is seen as a property, capacity or attribute largely separate from its effect. Models of power, such as Marxism, argue that power is held exclusively by dominant groups in society (an argument also used by some feminists in their construction of patriarchy). Such conceptions require fixed and stable identities and categories such as class and gender, which post-modern analysis deconstructs (McDowell, 1991, 1999; Griffiths, 1995) and which are rejected in this thesis. Although power and leadership are not the same, it is important to link them as processes/forms of influence, particularly given the (not unproblematic) explosion of interest in leadership in education (Bennett & Anderson, 2003; Earley *et al.*, 2002; Gronn, 2003).

Traditional models of teacher relations and leadership in schools focus on formal positions, commonly the role of the Headteacher, suggesting that power, as authority associated with domination, has a more or less linear trajectory as ‘power over’ (Angus, 1993; Kenway *et al.*, 1998). This is seen to operate in a rational, controllable (male) world (Al Khalifa, 1989) where: *‘The behaviours, traits and characteristics displayed by men in formal positions of authority have been the ‘givens’ of leadership’* (Blackmore 1989, p.94). This reified view of power vested in a particular series of hierarchical positions has much in common with concepts of knowledge as a thing to be acquired and transmitted.

My previous study suggested a relationship between collaboration and conceptions of leadership, which is currently an area being explored through the Networked Learning Group at the National College of School Leadership (Jackson & Leo 2003). Collaboration as strong forms of joint work, suggesting elements of collegiality,

appeared more likely to happen where leadership was experienced as distributed throughout the staff, rather than when it was perceived as a function of a hierarchical arrangement dependent on formal roles (McGregor, 2000b, 2003). I suggest that a more worked-through conception of power as performed through spatiality can assist in a (feminist) reconceptualisation of leadership, which would involve a view of power which is *'multi-dimensional and multidirectional. Leadership is seen as being practised in different contexts by different people and not merely equated to formal roles'* (Blackmore, 1989, p.94). In this thesis, power and leadership are explored as an ability to *act* with others, rather than simply a function of position. Studying the operation of modalities of power as forms of association within an institution foregrounds the importance of spatiality – where, when and with whom which interactions 'take place'.

5.0 Foucault and power

In acknowledging that space is filled with ideology and power (Soja, 1989; Keith & Pile, 1993), it is necessary to outline in more detail the conceptions of power employed in this thesis. Rather than a passive force exerted over things and people, contemporary theories stress that power is exercised in less visible and more amorphous ways (Lukes, 1974). Foucault sought to uncover the processes by which subjects are constituted as the effects of power (Orner, 1993). Power in a Foucaultian conception is not possessed by an individual or group but omnipresent, distributed through the social world in complex ways as an open cluster or constellation of relations (Paechter, 1998a).

'Power is not something that is acquired, seized or shared, something that one holds on to or allows to slip away; power is exercised from innumerable points, in the interplay of nonegalitarian and mobile relations' (Foucault, 1978, p.94).

Power thus circulates within a network of social and spatial interactions. It may not have a single identifiable locus; for example, in any situation the actual decision makers/takers may be difficult to identify (Noble & Pym, 1970). Foucault suggests that power in the reified form critiqued by Latour (1986) does not act directly upon people, but exists in the way that certain actions modify other actions in the present or future. It exists only in that action and is constitutive of social relations, but not tied to specific groups or identities: '*an action upon an action*' (Foucault, 1982b, p.220). As those involved are free (physical domination being cast as violence), the power relationships are unstable with the possibility of resistance. This allows an openness from the original encounters, a space for the politics of change (Massey, 1999b).

Power is mutually constitutive of socio-spatial relations and in its effect and operation is not necessarily either negative or positive (depending on your location in the power geometry). Neither does it conform to a simple binary of domination or resistance. '*Power produces, it produces reality; it produces domains of objects and rituals of truth.*' (Foucault, 1977, p.194). Thus, relations of power are pervasive and a consequence of networks (re) assembled in spatial configurations such as the classroom where discourses of power are played out.

Power in this understanding is a multiple entity reaching inside an institution in an immanent rather than a hierarchical fashion, '*deep in the social nexus*' (Foucault, 1982b, p.222) (re)composing arrangements in space and time (Allen, 1999). This focus on the exercise of power residing in small, local interactions requires the analysis of the 'microtexture' of relations. Power brings into play and constitutes relations between groups and individuals, which are here explored through the spaces of the classroom and patterns of adult interaction in the school and the meanings made of it as a workplace.

5.1 Technologies of power in schools

Foucault (1982a) suggests that he provides a 'toolkit' for the analysis of power relations, focusing on the strategies, networks and mechanisms of power. These determine individual's behaviour by controlling their decisions operating through a series of 'technologies' such as surveillance, rather than by coercion. Thus, individuals are socially constructed by certain regulatory techniques which commonly remain unacknowledged as power.

'If power is in reality an open more-or-less co-ordinated, cluster of relations, then the only problem is to provide oneself with a grid of analysis, which makes possible analytic relations of power' (Foucault, 1980, p.198).

It is the possibilities of such a *spatial* analysis that this thesis explores.

Disciplinary institutions (such as schools, prisons or hospitals) organise physical space and time in a particular way, with activities that have been developed over time to change peoples' behaviour along a number of parameters: for example, through organising space and the normalising, standardising examination (Foucault, 1977). The technologies which operate most obviously in schools are surveillance, classification and normalisation, and the mobilisation of space (Gore, 1995).

As a major, and explicitly spatialised, technology of power, surveillance controls individuals through their choice of action where choices are made according to certain norms. Foucault (1977) used the metaphor of Jeremy Bentham's planned Panopticon to illustrate the articulation of power through surveillance of the many by the few, acting to create self-regulated 'docile bodies'. He describes

'An inspecting gaze, a gaze which each individual under its weight will end by interiorising to the point that he is his own overseer, each individual is thus exercising this surveillance over and against himself'' (Foucault, 1980, p.155).

The individual thus regulates him/herself by internalising the discipline. In this model, panoptic power is disembodied and cannot be traced to *'a particular group or individual, it could be exercised by anyone; It's a machine in which everyone is caught, those who exercise power just as much as those over whom it is exercised'* (Foucault, 1980, p.156).

Surveillance is a key mechanism of control in schools where pupils are subject to the panoptic gaze of the teachers (and all females to the 'masculine' gaze). Teachers are also the subject of surveillance from pupils (for example, in relation to their appearance and apparent sexuality), the management and fellow teachers (Paechter, 1998a). The gaze of disapproving colleagues, whether actual or perceived, may be a fundamental barrier to experimenting with new ideas or productive joint work, particularly at different stages in the teachers' school career (Little, 1990b; Nias, 1998). It is suggested, in relation to the spatiality of the department in secondary schools, that this may be a significant influence in the ongoing construction of the workplace, evidenced partly through the importance placed on developing supportive relationships of trust.

Explicit techniques of surveillance appear to be multiplying. In an increasing number of schools CCTV is used extensively in spaces such as corridors (even in toilets), although this has not yet extended to the staffroom. In addition to the inspections of Ofsted, there is the construction of managerialist discourses of quality and effectiveness, with their 'microphysics of power' operating with continuous monitoring (rather than mutual observation and feedback) built into the line-management system (Bottery, 2000). Thus,

the panoptic gaze of performance management, with targets, record-keeping and assessment procedures, serves to develop 'self-control' of individual teachers and has considerable influence on work patterns (Helsby, 1999; Rea & Weiner, 1998).

Overt self-surveillance is increasingly encouraged among teachers through the creation of portfolios, the appraisal of performance management and the credentialism of the National Professional Qualification for Headship (NPQH). This is linked to the development of standardised programmes, with the identification of a progression of centrally decided aptitudes and skills. Normalisation is achieved by adherence to pre-determined and decontextualised generic 'standards', involving record-keeping, systems of marking and classifying (Harrison and Wortley, 2000). Technologies of classification also operate influentially through the hierarchy of curriculum 'subject-areas', affecting teachers' relations on the basis of department affiliations (Paechter, 2001; Gutierrez, 1998; Siskin & Little, 1995). This can be expressed through spatial relations such as access to particular time-slots or assemblages of rooms or resources.

Normalisation is a system of gradated and measurable intervals where individuals are classified and distributed around a norm, conforming to standards which differentiate through comparisons (Rabinow, 1984). *'Such a power has to qualify, measure, appraise and hierarchise'* (Foucault, 1978, p.48). Operating through surveillance in relation to gender and sexuality, normalisation serves to maintain a narrow range of socially sanctioned (heterosexual) gender identities in the workplace. These are often mutually constructed with dominant and subordinate relations (McDowell, 1997). In addition, for teachers, normalisation may operate from the scale of target-setting in relation to pupils' results for performance-related appraisal, to 'league tables' of school performance. In this respect, the official endorsement and encouragement of

‘teamwork’ and ‘collegiality’ may be seen in some arenas as a form of self-regulation, where contrived forms of working together may actually add to teachers’ burdens (Hargreaves and Dawe, 1990).

5.2 Space as a technology of power in schools

Foucault acknowledges the importance of the spatial: *‘space is fundamental in any form of communal life; space is fundamental in any exercise of power’* (Foucault, 1982a, p.252). He argues that *‘distributing individuals in space’* (Foucault, 1979, p.141) - enclosing in functional sites, arranging, isolating, zoning and ranking (according to how well they have been normalised) - contributes to the functioning of disciplinary power within institutions. This in turn produces particular actions.

‘A whole history remains to be written of spaces - which would at the same time be the history of powers (both these terms in the plural) - from the great strategies of geo-politics to the little tactics of the habitat, institutional architecture from the classroom to the design of hospitals, passing via economic and political installations’ (Foucault, 1980b, p.149) (author’s emphases).

Rose (1993a) thus comments that space is for him a strategy of power.

In excavating the process by which subjects are constituted as the effects of power, it is the technologies of power (*how* it is exercised), which are the crucial unit of analysis rather than the institutions themselves. Panoptic surveillance, as earlier described, was utilised first at a local level and many of the power relations in schools are still fundamentally concerned with disciplining bodies (Foucault, 1980b; Ball, 1990).

However, the emphasis of modalities of operation has shifted somewhat with the development of more sophisticated examination and recording technologies. Power relations are inscribed in buildings (Markus, 1993), with consistent and enduring forms exhibited by the majority of secondary schools in 'the West', indicating the persistence of particular forms of power (Rose, 1999). Buildings may thus be seen as 'concretisations of power' (Marshall, 1990).

The organisation of school space '*reflects societal and legal rules which view children as subordinate to adults*' (Shilling, 1991, p.32) and the regionalisation of the classroom is the spatial manifestation of the complex power/ knowledge web which is exerted by adults over children (Marshall, 1996). Space is drawn upon to maintain and reproduce power relations between individuals and groups. Teachers determine, or possibly negotiate, rules and routines which control pupil behaviour, movement noise and access to materials and technologies (Jacklin, 2001). In creating physical structures such as furniture layouts, certain behaviours are encouraged or suppressed, which function almost invisibly to display teacher expectations and reinforce adult control of knowledge, teaching and learning (Coffey & Delamont, 2000).

The first day at secondary school often includes a strong emphasis on communicating classroom and school rules, which are mostly inherently spatial. They are generally concerned with the control of time, space, movement and noise (Gordon *et al.*, 1999). Thus power is deeply inscribed into certain spaces within the classroom, for instance in the location of 'the teacher's desk', which is frequently at the front of class, even if offset. The teacher's desk is both a symbol of authority and a point of surveillance. It is symbolic of the teacher as *transmitting* knowledge rather than it being constructed together. This is generally a space that pupils may not touch, although teachers may

move and remove articles that pupils have on *their* desks. Pupils may be only rarely allowed to use the teacher's desk, unless seated there as a punishment, isolated from their friends.⁴

Classrooms and their layout embody ideologies about teaching and learning and the relationship between teachers and pupils which can be quite apparent from the usual disposition of furniture. While formal spatial strategies such as 'place-capturing' are no longer practised, the disciplining of bodies through the regulation of seating is a major strategy employed by teachers in 'classroom management', encouraging particular forms of grouping, controlling or punishing students. A newspaper report notes that '*Parents complain after daughters are made to sit next to bottom set boys*' (Henry, 2001) when 'an education consultant' recommended boy-girl-boy-girl seating in an effort to reduce the gap between male and female achievement at GCSE. A further article noted a school where the '*teacher directed seating (which) according to senior managers gave boys the isolation they needed to concentrate*', i.e. isolation by having to sit next to 'the other' - a girl! (Arkin, 2002). Section six, in chapter three explores further how some teachers in this study mobilised space in their work in the classroom. The intersection of space power and the emergence of the classroom as a workplace for teachers is reviewed below

6.0 Space, power and the creation of the classroom

As this study progressed, it became clear that although I was not empirically investigating relationships between adults or with pupils in the spaces of the classroom,

⁴ Gallagher (2001) argues that this is actually a process of 'individualisation' (i.e. within a set of social relations) where discipline '*individualises bodies by a location that does not give them a fixed position but distributes them and circulates them in a network of relations*' (Foucault, 1977, p.146).

an exploration of what constitutes ‘the classroom’ in the secondary school was fundamental to an understanding of spatiality and teacher workplace culture. Teachers in the study identified the classroom (or laboratory, workshop etc.) as a major place of work, and ascribed particular meanings to it. The term ‘in the classroom’ was often used to designate a set of formal pedagogic relations with pupils that teachers perceived as their primary function. This was despite the fact that, on average, only around 36% of the total work time reported by secondary school teachers is spent directly teaching students (Pricewaterhouse-Coopers, 2001b).⁵

In the next section, I sketch the ways that space is fundamentally implicated in the construction of the classroom, historically, socially and politically. The creation of the classroom, while from different origins in North America and Australia, has powerfully influenced teachers’ work, pedagogical strategies and relationships (Lortie, 1975; Blackmore, 1993). Yet the spatio-temporal nature of the orderings of physical space, articulated through the apparent rationality of the timetable and the mobilisation of space in social and power relations are only now beginning to receive sustained attention.

The silences surrounding the spatialised creation and culture of the school and the classroom in architecture (Fisher, 2002b; Markus, 1993) extend to the history of education. However, there is, ‘*an explosion of interest*’ (Lawn & Grosvenor, 1999, p. 382) in exploring approaches to interaction with the material environment of schooling, which parallels the expanding attention in the social sciences paid to ‘children’s geographies’ (Holloway & Valentine, 2000). An examination of the genealogy of the

⁵ This compares with a figure of 40% reported in the last major secondary teacher workload survey (Campbell & Neill, 1994) From the phase one results of the survey, secondary school teachers reported a mean of 54.3 hours worked in an average week, of which 19 were spent teaching and a further 5-6 in other contact with pupils e.g. at break time.

classroom also suggests the means by which the classroom is constructed as an assemblage of inherently spatialised techniques of power (Foucault, 1977).

6.1 The emergence of the classroom

It is in tracing the emergence of the classroom, even briefly, that the spatial nature of power relations is particularly revealing of the normalising and socialising functions of the school (Marshall, 1996). The organisation of space-time is fundamental to an understanding of how institutions develop ways to ensure certain behaviours: '*Different spatial arrangements reflect the possible ways of acting inscribed in different schemas*' (Allen, 1999, p.202). This is nowhere clearer than in the explanations of the design of 19th century schools, which highlight the significance of space in the relationship between power, knowledge and the body. It is not surprising that during the Industrial Revolution the metaphor of the machine was used to describe education⁶. Foucault in his description of the disciplinary mechanisms which create the institutionalised 'docile body' wrote '*this machinery works space*' (Foucault, 1977, p.143). How were the relations of the machine materialised?

The genealogy of the classroom illustrates the mutual constitution of teachers, pupils and materially-embedded technologies. The classroom in Britain substantially evolved in the 19th century through the creation of elementary industrial schools, with their origins in carceral and Poor Law institutions as well as education (Markus, 1993). However, the direct design of these school environments was substantially driven by educationalists who considered the architecture of the building as important as timetables or systems of reward. Such schools contrasted markedly in architecture and

⁶ Coleridge (1817) described it as '*an incomparable machine- a vast moral steam engine*' (Markus, 1993 p.41).

layout with co-existing educational institutions such as Lancing College, which had a very different kind of social function, more aligned with the Oxbridge colleges to which its scholars might progress (Piem, 2001). Markus (1996) demonstrates how space in these schools was organised to produce hierarchical relations based on, and interwoven with, strong ideologies of religion, order, surveillance, discipline and competition. He suggests the limited formation of solidarities among pupils reflected, in microcosm, the new economic and social relations unfolding in the rapidly industrialising wider society.

Structures such as classrooms which were created in this way have been substantially reproduced by design in our schools over the last two centuries. Markus argues that: *'asymmetries of power in society and impediments to the bonds which are so subversive of such relations, were kept intact in such buildings'* (Markus, 1993, p.317). In relation to the workplace of teachers, Joyce *et al.* comment that schools have been designed for separate functioning rather than the development of collegial relations. They suggest that the cellular classroom portrayed by sociologists *'describes an environment which would be almost surreal if it were not so sinister. Educators are assigned to instructional duties with almost no provision for collective work'* (Joyce *et al.*, 1999, p.10).

Core features of the present-day school and the classroom developed from a conjunction of elements, primarily the creation of the 'professional teacher', the grouping of pupils and the strongly socially engineered architectural organisation of social spaces, notably the classroom, playground and school hall. In the early 19th century pre-monitorial schools, held in large single spaces, pupils were neither a cohesive group, nor in competition with each other, they related directly to the teacher. The monitorial system devised by Bell and Lancaster changed relations by subdividing large numbers of

children still in a single space into groups instructed by pupil monitors, often through the activity of repetition⁷. However, competition was introduced through ‘place capturing’ where pupils’ positions in a hierarchy of achievement was reflected in their physical location in the schoolroom, explicitly spatialising pupil performance (Paechter, 2000)⁸. To further produce the compliant ‘docile subject’, bodies were also disciplined through detailed rules governing behaviour, clothing and posture (Foucault, 1977).

The development of the teaching gallery allowed the surveillance and control of a large group through eye-to-eye contact, and ‘classes’ of children began to be grouped by achievement, although initially the lack of common teaching meant that there was no opportunity for solidarity to develop within the boundaries of the class. The final step was the separation of the entire school into classes (*Figure 1*) simultaneously taught by teachers in separate rooms, as introduced by Wilderspin (Markus, 1996).

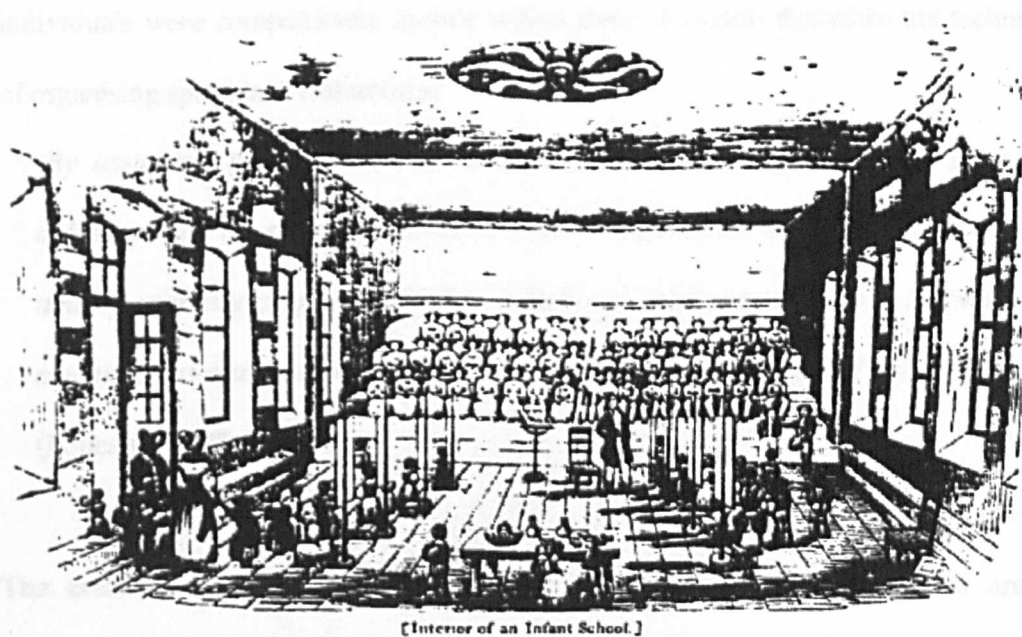


Figure 1 From Markus 1993 Buildings and Power

⁷ Bell claimed up to 10,000 children could be instructed in this way under the supervision of one master, thus saving time, space and teaching material (Markus, 1993)

⁸ In Stoot's 'chresomathic' school, 900 boys were taught by a single master and six monitors with children moving round in a ring clockwise and anticlockwise according to performance (Markus, 1993).

James Kay-Shuttleworth pioneered the idea of training for pupil teachers, and the parallel evolution of the cellular classroom encouraged and emphasised the emergence of the teacher as a figure exercising pastoral surveillance and discipline. This enabled the interrogative questioning and response that Foucault (1977) cites as a major method of transforming individuals to self-regulating citizens (Piem, 2001; Ball, 1990a). For the (new) teachers, separate classes conferred the status of independence and relative freedom from surveillance, while pupils were more homogenised (Paechter, 2000).

Classes arranged on the basis of age or level of attainment allowed the development of normative examination and competition between individuals within the class. Teachers thus gained private space while for pupils it was more public, exposed to the gaze of peers and the geometries of competition. Markus (1993) suggests that in common with the emergence of class during this time, strong boundaries remained fixed, but individuals were competitively mobile within them. Foucault describes the techniques of organising space into classrooms:

'By assigning individual places it made possible the supervision of each individual and the simultaneous work of all. It organized a new economy of the time of apprenticeship. It made the educational space function like a learning machine, but also as a machine for supervising, hierarchizing and rewarding' (Foucault, 1977, p.147).

The creation of individual classrooms also produced 'the corridor', an area of movement and unplanned interactions, where control was problematic: *'As teachers gained freedom in the classroom, the children gained it in the corridor'* (Markus, 1993, p.94). Even today it is in 'the corridor' that much peer interaction, positive and negative (including harassment) takes place while pupils are in their 'ludic state' (McLaren,

1995; Gordon *et al.*, 2000a). The space of the playground in the 19th century schools of Wilderspin was deliberately designed to overcome the baser manifestations of competitiveness and develop the possibilities of co-operation and moral character through shared play. It was to be a microcosm of the 'real world', although under the discrete surveillance of the (head) teacher.⁹

The pattern of the individual fixed desk formal classroom was codified in regulations which remained substantially inviolate until after World War II. In the 1960s alternative designs, notably the 'open plan' school were proposed as a reaction against whole-class teaching (Saint, 1987). Following the Plowden Report (Galton *et al.*, 1999), they were designed to be more child-centred, with fewer concrete boundaries allowing an increase in flexibility, facilitating the timetabling and teaching of different activities and notionally increased pupil agency. Piem and Paechter (2000) agree that the open-plan primary school is a refinement of the panoptic techniques of surveillance, where spaces of play and work are no longer separated but are: '*one single, intricately divided space where the child orients itself in respect to its own capacity for self-motivation, self-direction, self-instruction, and general self-management*' (Piem, 2001, p.184).

The teachers and pupils of the classroom today, whether open-plan or cellular, are increasingly subject to less obviously visible forms of surveillance and normalisation than under the monitorial system, for example through (computerised) recording of assessments and targets. In addition to the dividing external examining gaze (Ball, 1990b), Paechter (2000) notes the encroachment of panoptic continuous assessment,

⁹ Gagen (2000) describes a similar role for the school playground in early 20thc America as a 'site of transformation' where working-class children from urban slums could be seen to demonstrate the positive properties of moral reform through self-restraint and co-operation, while playing (Fielding 2000). Pupils were also purposefully differentiated through a spatial regime, being separated on the basis of gender with a subsequent scripting of social roles through the play activities that were proscribed or encouraged.

for example through coursework, into the space of the classroom. Hence, our conflation of 'the classroom' with its physical and temporal co-ordinates, more apparent in the early elementary schools, blinds us to the less evident operation of power from the centre. *'Where space and its hardware had been instruments for the visible exercises of power in the 'engine' they now become a setting for invisible controls'* (Markus, 1993, p.94). It is in response to this that arguments for a *'critical pedagogy of space [which] might begin with an analysis of the gendered use of space in the classroom'* (Morgan, 2000b, p.282) are advanced by critical theorists such as Peters (2003) and Fisher (2002b).

7.0 Spatialising power

Spatiality is increasingly seen as central to an understanding of the workings of power (Massey *et al.*, 1999; Sharp *et al.*, 2000). This is exemplified through the writings of post-structuralists such as Foucault and Latour, and contributions of scholars such as Giddens and Arendt. Allen (1999) argues that despite the development of a repertoire of spatial vocabularies, a spatialised theory of power is needed.

Different practices of power, in the Foucaultian sense, vary in their intensity and reach as a result of the configuration of socio-spatial relations. Giddens (1985) describes the attenuation or 'stretching' of social relations over space and time. This distanced power increasingly involves communication and interaction with that which is absent in a particular space-time, as described by Harvey's space-time compression and the articulation of global processes through local contexts (Nespor, 1994). It highlights that teachers' interactions occur in networks of social relations, which extend far beyond the staffroom in space and time. Such relations are mediated by the construction of

identities, genders and disciplinary practices through networks of animate and inanimate objects such as subject associations, magazines and textbooks, radio and television and electronic communications.

To examine the operation of power in relation to space/time more closely we need to recognise that distance, movement, and containment entail the adoption of different *modes* of power, often in overlapping assemblages (Allen, 1999). In this conception, authority is only one mode of power, operating in a vertical, linear trajectory, while inducement and negotiation are more lateral modes of association (and seduction is necessarily more indirect). One mode of power may change to another in a given configuration of social relations and, as Foucault suggests, may be positive. *'It incites, it induces, it seduces, it makes easier or more difficult: in the extreme it constrains or forbids absolutely: it is nevertheless always a way of acting upon an acting subject'* (Foucault, 1982b, p.220).

A further, benign, form of power is described by Arendt as collaborative power which is associational and sustained by mutual action for a common purpose. This explicitly spatialised mode of power is described through her views on public space as *'The object and location of an action in concert as the 'sites' of power of common action, co-ordinated through speech and persuasion'* (Benhabib, 1998, p.70). Allen suggests that in looking at the way in which associations are performed in such spaces (which could, according to Benhabib's conception, include social spaces such as staffrooms). Arendt is concerned with *'more open, transverse relationships of power, those which cut across conventional organisational lines and practices'* (Allen, 1999, p.212). Exploring the associational modes of power in the school may thus provide a further means of thinking about constructive and empowering forms of teachers' collective work and the

playing out of leadership as influence within this. In addition to the continual possibilities of resistance there are also many different modalities of power which can include pleasure, desire and complicity (Kenway *et al.*, 1998; Raphael Reed, 1999), while surveillance itself may be friendly or 'noisy' (Robinson, 2000).

In an analysis of power relations as fluid and circulating, Latour (1986) addresses the possibility of the translation or transformation of power and of the networks through which 'it' 'moves' using Actor-Network Theory. This is concerned with the mechanics of power, identifying the variety of heterogeneous actors as interactive effects in a similar way that Foucault conceives of power as an effect. It is helpful to see power as mobilised and employed in different modalities at different locations as a heterogeneous network, from whence it will change as it flows through the network of which it is arguably constitutive. This particular lens on spatiality is explored in chapter seven.

A liberal view of power in educational writing tends to externalise power, addressing the macro-realm of ideologies and structures where policy discourses generally present a disembodied - and decontextualised - view of teaching and learning (Marshall, 1996; Gore, 1995). This raises questions of gender, ethnicity etc., but masks actual exercises of power at the microlevel in schools and classrooms. Foucault's ideas provide a useful framework for investigating the microlevel of bodies and relations in the classroom (and staffroom) and the constellation of power relations which operate (Paechter & Weiner, 1996)¹⁰.

¹⁰ See *Discipline and Punish* (Foucault, 1977, p.139-141) for account of micro-scale techniques of disciplinary power.

The notions of place and space employed in this thesis aim to question binaries such as macro/micro and local/global. Whilst it is necessary for school reform to be seen as part of the wider social, economic and political context (Nespor, 2003), it is at the immediate level of the everyday, that the 'microtexture' of power relations is enacted (Marshall, 1996). Foucault notes that: *'The fundamental point of anchorage of the relationships, even if they are embodied and crystallised in an institution, is to be found outside the institution'* (Foucault, 1982b, p.222). In the current climate of surveillance and centralised government policies, an understanding of power as an effect of micro-relations seems particularly fruitful in an analysis of schools as workplaces.

We thus need to interrogate the ways that space affects the mechanism and realisation of power, how it disrupts flows, how it makes a difference: *'Spatialising power through a geographical imagination... reveals that such power is not always the same across space-time, and its exercise is not a continuous process'* (Massey et al., 1999, p.172).

Massey et al. go on to suggest:

'While power may be viewed as the ability of certain groups to define others, by spatializing power, becoming aware of its modalities, it becomes clearer how these same others can challenge collaboratively in just as positive ways. The gaps in the exercise of 'dominant power' thus provide space for thinking imaginatively and geographically about emancipatory politics' (Massey et al., 1999, p.172).

Thinking spatially thus raises the possibility of asking disruptive and generative questions about the way space-time is deployed in schools. By extending our understanding of teachers' workplaces as socio-spatial networks of power relations, we may then begin to reframe debates about the value of individuality and collaboration or

collegiality. We can then ask questions concerning the spaces and places we are making for teachers (and pupils) to work together and learn from each other. The following chapters introduce the empirical study designed to investigate these processes.

Chapter Two - Methodology – not another journey!

1.0 Introduction

A thesis is a particular space where relationships are mapped out, intersecting paths (or dead-ends) plotted and journeys through space and time described. Spatial metaphors are seductive here, but in this chapter I aim to locate the ideas that I draw on, trace the non-linear route whereby the development of theory informed decisions about collecting information, and examine some of the issues arising from the fieldwork.

Exploring the propositions on space, power and gender was the progressive focus for developing methodology through the scrutiny of ontological and epistemological assumptions. The study began with the premise that ‘reality’ is multiply constructed and social life is relational. This was amplified by an evolving understanding of the social as reciprocally constructed with the spatial and constituted by relations of power. The frame was ‘the everyday context’ of the school, with detailed attention given to the importance of multi-layered relationships in situated social life. Fieldwork was therefore critical to the project, which adopted a microethnographic case-study approach in two schools. In this chapter I review the methodological decisions, which guided the broadly qualitative research design, and describe the mixture of methods used to explore understandings of the spatiality of the school as a workplace and the issues that arose as a result. I attempt to spatialise the project itself through locating myself within the (ongoing) process of engaging in educational research.

2.0 Relational understandings guiding the enquiry

In the relational ontology employed here, space is not pre-given or closed, but the dynamic product of juxtapositions and often happenstance interactions, embedded in material practices (Massey, 1999b). The methodology is qualitative in its orientation, studying naturally occurring interactions in everyday contexts and investigating the world of the school from the point of view of the inhabitants, through the situated and embedded character of accounts and practices. As the investigation developed, it became clear that it was the very conception of context that I was exploring, and further, that the notion of 'naturally occurring' (rather than artificial) begged questions about the character of actors in the situation.

The principal enquiry question the thesis started with, which informed the initial reading strategy and reading plans, was: 'What is the influence of the spatial in interaction between teachers in secondary school workplace cultures?' Nevertheless, as described in chapter one, it became clear that it was not the *influence* of the spatial but the spatiality of the school as a workplace (for adults) that I was examining.

The thesis challenges the notion of space as pre-given and essentially static, the frame that has dominated post-enlightenment 'scientific' thought. The resulting hierarchies of forms of knowledge among disciplines (with the 'hard sciences' afforded greatest status and leading to physics envy), are both socially constructed and spatio-temporally specific (Massey, 1999a, 1999b; Nespor, 1994). Thus heterarchies or webs of knowledge may actually be a better metaphor for a spatial approach (Maykut & Morehouse, 1994). Western science (to acknowledge the monolithic iconic status it enjoys) is predicated on the idea that there is a reality 'out there' which may be investigated and that by

sectioning out and scrutinising elements we may come to understand the whole and the laws that govern it. Hence positivism, with its 'Cartesian anxiety' in the quest for certain knowledge (to find out 'how things really are') employs objectivist epistemologies, for example using scientific models with artificial engineered contexts designed to test pre-determined hypotheses (Guba, 1990). Genres of research therefore represent communities of practice with discourses produced through very specific, and gendered, space-time contexts (Walkerdine, 1988; Wertheim, 1997).

Through positivist approaches events are deliberately decontextualised, which is an anathema to the situated ontological position 'here' in the thesis which aims to present schools as ongoing and contingent articulations of relations. Hence an exploratory process is used to elicit the constructions of actors involved, to investigate actions and meanings rather than delineate cause and effect. In much qualitative research however, social events and processes are conventionally explained in terms of their relation to the contexts in which they occur, the 'naturalistic' rather than experimental setting, in contrast to the positivistic reduction of meaning to the observable (Denzin & Lincoln, 1998). Thus academic space, one way or another, sections out places and settings as givens rather than ongoing and contingent relations of power. Nespor suggests that:

'Research that ignores the historical and geographical processes that produce and maintain places in larger networks of practice becomes complicit in the silences and exclusions upon which those spaces are premised' (Nespor, 2000a, p.554).

It is precisely such silences in relation to the spatiality of schools that this thesis challenges.

It is assumed here that people's perspectives are constructed over time and through mutual interaction with their context, here explored as spatiality. Causal events, in so far as they need to be identified, are taken to be mutual and multi-directional, rather than linear. This open-ended exploration of spatiality (as travel through an unfamiliar area) entailed detailed inductive investigation of two schools using a variety of methods to gather initially unstructured data. This allowed for progressive focusing which then suggested directions for further study.

In moving beyond the conception of context as a nested hierarchy of containers for social life, this research required the investigation of the architecture, observable interactions and discourses of schools as workplaces, and an exploration of the multiple perspectives and constructed understandings (the making of meaning) of the adults working there. A variety of strategies was drawn on to elicit the subjective meanings people attached to the workplace according to their positioning in the networks of social relations or 'power-geometries'. Interpretive researchers argue that '*much social research neglects the medium of language and meaning*' through which '*social reality is expressed*' (Hitchcock & Hughes, 1989, p.27). I therefore paid particular attention to language and expression, through recording words, images and observable situations.

The conception of space as '*the sphere of possibility of the existence of multiplicity*' (Massey, 1999c, p.28) implicitly questions monolithic dualities such as inside/outside and formal/informal, hence the utility of creating competing binaries such as positivist/constructivist paradigms as delineated by Guba (1990). Such polarities have been extensively debated elsewhere in educational research (Easterby-Smith *et al.*, 1994; Griffin & Phoenix, 1994; Maykut & Morehouse, 1994; Patton, 1988; Silverman, 1997). The consequent suggestion that positivist or phenomenological/interpretive stances

require mutually exclusive quantitative or qualitative methodologies seems both simplistic and unhelpful (Silverman, 2001). Patton (1988) proposes that ideal-typical quantitative and qualitative approaches differ along a continuum in respect of closeness to the data, with the quantitative/experimental paradigm emphasising distance as guarantee of neutrality. Although this is a useful device for thinking about what proximity means, continua imply a linearity and progression which rarely exists.

The broadly qualitative, relational enquiry which formed the basis of this work was expressed through 'close' engagement with certain individuals and situations in the field, exploring the way in which *'occupants of the same Cartesian spaces may live in very different 'places'* (McDowell, 1999, p.5). The mixture of methods for gathering naturally-occurring data was eclectic and flexible, responsive to the messy realities of schools as workplaces, while acknowledging the importance of their systematic application and rigorous and critical appraisal.

The proposition that power is distributed through and constitutive of gendered social relations and spatiality (Massey, 1994, Rose, 1999) further emphasised the need to study routinised social practices and the minutiae of everyday interactions, by focusing on particular areas such as 'the office' and entities such as subject departments. Gender is a fundamental dimension of the project with a major sub-question being 'How are spatial processes gendered and what is the interaction between gender and space?' Adopting gender as a focus and organising principle is a methodological strategy which throws different issues into relief in relation to the workplace (*See Chapter Eight*) highlighting the mutual construction of gender and space as performed (Delamont & Atkinson, 1995; McDowell, 1997, 2001).

Exploring the interrelationship between gender, power and space offered perspectives from a variety of theoretical positions which further informed methodological and fieldwork decisions. This required being attentive to issues of identity, for instance, in relation to the construction of gendered spaces and boundaries between work and home (Hanson & Pratt, 1995; Massey, 1994). The partiality of narratives evidenced by the gendered power-geometry of workers in the school also suggested a broadening of the study to include adults other than 'full-time' teachers and classroom assistants; hence, I included part-time teachers, office and caretaking and other support staff in the study, although there was insufficient time to explore the interfaces between them.

2.1 Locating the research in ethnography and case study

Epistemological considerations of the relationship between the researcher and the researched are fundamentally related to the ontological assumptions discussed. If knowledge and 'the reality out there' can be separated out and the parts studied in order to gain an understanding of the whole, then the knower/researcher can stand apart, distant, from the field of study. However, if, as is the premise here, knowledge is situationally created, and reality is (co-)constructed by individuals in the research situation, then the interaction between the researcher and researched requires extended proximity in space-time. This guided the decision to employ an ethnographic approach in two case studies. After a brief exposition of these frameworks, the overlap between them is discussed, followed by a consideration of the ideological perspectives which further informed the methodology.

To state that schools are complex, multilayered phenomena fails to capture the texture of the huge number and variety of interactions between people, materials and

technologies that occur in the course of a day. Nor does it reflect the uncertainty that is contingent on individual and group behaviour and the workings of technology plus the demands of planning, marking, administration and development that must be met outside the classroom. In order to gain a theoretical purchase on this complexity, I read widely, and it was the detailed accounts of institutions such as Hillview, Beachside and Parnell that resonated most closely with my own experience of school (Acker, 1999; Ball, 1981; Mac an Ghaill, 1994).¹¹ Although these studies, locating themselves within ethnographic/sociological traditions, variously addressed issues of (gendered) relationships in particular space-times, it was Nespor's account of Thurber elementary school as '*an intersection in social space*' (Nespor, 1997, p.xiii) that moved my thinking most decisively beyond the study of the school as a container for social practices and subcultures, and suggested widening the angle of the conventional ethnographic lens through a spatial perspective.

While there is an increasing diversity of approaches within, and definitions of, ethnography, it can be said that ethnographic research involves highly descriptive studies of groups of people and their perspectives on '*the imagined social worlds that they think they inhabit*' (Hammersley, 1998a, p.8). Behaviours are studied in everyday contexts, with data gathered in a relatively unstructured way from a range of sources. The analysis involves interpretation of the meaning and functions of actions, mostly in verbal and visual descriptions. In education, ethnographic work deriving from symbolic interactionism has had a particular influence in researching the socially-grounded perspectives and experience of the actors involved '*both in the immediate contexts in*

¹¹ A deliberate decision has been made not to present a 'literature review' as this suggests clearly bounded 'bodies of knowledge' which the hybrid life of this thesis denies.

which people live and work, and within the wider framework of global society' (Hammersley, 1999, p.2). This informed the topological approach to the school (as outlined in the next chapter) which was suggested by Nespor's (1994) insistence on the examination of social, economic and political flows that shape identities and constrain or encourage certain actions in schools.

The two secondary schools used as case studies here had been the subject of the earlier study, so I had been visiting them since 1998 and thus might be said to have the status of a 'privileged observer' (Halstead, 1997). I was known by many of the staff as a teacher-researcher and sometimes welcomed as an 'old friend'. The schools were originally selected on the basis of the ways staff characterised them as workplaces. At Brythnoth there was a common feeling that the staff did not 'hang together', while Kingbourn was presented generally as a positive and collaborative environment. As amplified in the next chapter, the schools were more similar than dissimilar in that they were both secondary comprehensive community colleges situated in basically rural areas, built within a decade of each other, and with a fairly typical distribution of staffing. The decision to focus on secondary schools resulted from my involvement with such institutions over 20 years of teaching and practitioner research: also the critical differences with primary schools in size, orientation, organisation and (I would suggest) cultures.

As the theoretical propositions of spatiality developed it became clear that, while it was useful to inform my thinking through examining schools with unusual architectures (Peckham, 2001) or socio-economic circumstances (Davies, 2000), it was the everyday interactions that formed the basis of data gathering. The two schools presented similarities, forming the basis of the exploration of spatialities, while the differences in

ways of working provided the stimulus to explore spatiality in relation to communities of practice. The fundamental notion of examining the location of collaboration in teacher workplace cultures meant that pupils¹², while being an intrinsic element of the spatiality (and purpose) of the school, were not specifically asked for their views and perceptions. Interactions, formal and informal, between staff and pupils were observed and recorded in fieldnotes and discussed in interviews, but again, fell outside the scope of the PhD writing project.

This investigation is neither strictly an ethnography nor a case study. It does not attempt to map either of the schools as an entire social/cultural system, nor does it focus on particular events, processes or individuals. Rather, the nature of the exploration was to question what constitutes the spatiality of the school, with the findings then represented through a series of spatial foci. In this respect the study may be called a 'microethnography' in exploring situated interactions between staff (Paechter & Head, 1996; Little, 2002). This highlights the need for even finer-grained investigations of school workplace practices.

A particular feature of a qualitative research approach is in utilising theoretical resources in the in-depth interpretation and analysis of a small number of cases (Silverman, 2001). Case studies were chosen here for their advantages in being '*strong in reality*' (Cohen & Manion, 1994, p.123). Through paying attention to the embeddedness and complexity of social life they offer '*a means of understanding complex human situations and encounters*' (Simons, 1996, p.226).

¹² The importance of naming and categorization is illuminated throughout this thesis and the term chosen for young people in school is pupils. While alive to the resonance of words like children, kids and students and aware of the sociological distinctions between them (Jones *et al.*, 2003) I used this term to avoid confusion with student teachers.

In focusing on everyday practices which are so entrenched that we take them for granted, in the same way that much teacher knowledge about teaching is held to be tacit (Becher, 1989; Gherardi, 2000; Hargreaves, 1998), I aimed to access and then problematise the 'member-knowledge' of teachers and adults, with the potential of making the familiar unfamiliar and thereby revealing it (Delamont, 1990, Delamont & Atkinson, 1995). In terms suggested by geology, I was investigating a conglomerate where the matrix within which the different pebbles of individuals and groups are embedded is itself part of the rock.

Particularly given my previous engagement with schools, and the common lack of a spatial literacy recognising the importance of the school as a space and a place (Fisher, 2002b), there was scope for misinterpretation. Hence, as commended by Denzin and Lincoln (1998), iterative strategies and multiple forms of data collection were used to allow the triangulation of findings.

Given the increasing use of case study and its interdisciplinary potential (Coffey & Atkinson, 1996; Creswell, 1998; Hammersley, 1999) there remains considerable debate over its location and specific relevance in the map of educational research (Bassey, 1999). Stake defines case studies as '*not a methodological choice, but a choice of object to be studied*' (Stake, 1994, p.236), which Yin argues is too broad - particularly if the object of the study is a 'functioning specific' such as a classroom. He argues instead that case study as a research strategy comprises a distinctive method informing data collection and analysis. He posits one would use the case study method '*because you deliberately wanted to cover contextual conditions – believing that they might be highly pertinent to your phenomenon of study*' (Yin, 1994, p.13). In this thesis, it is context

itself which is the object and phenomenon of exploration. Hence Stake's proposition of the case study as a system bounded in space and time, rather than a process, falls short of the developing conceptualisation of spatiality, and while Yin's definition points to the importance of such a focus, it falls into the trap of considering context as a container for or influence on phenomena, rather than in the conception of spatiality here, as mutually constitutive.

'A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomena and context are not clearly evident' (Yin, 1994, p.13).

Locating the thesis in relation to these perspectives perhaps illustrates the geographical genesis of the project, my own journey within and the relationships and reorientations of that discipline.¹³ Geography as a subject in schools, where I worked until five years ago, in many ways reflects the positivist approaches of the discipline in the 1960s and 70s, where space is taken as a given and thence rendered unproblematic (Morgan 2000b). During the course of the PhD process the significance of the social construction of space (and the discipline itself) became clear.

2.2 Research traditions in ethnography – spatialising the wider Western context

In comparing British and American ethnography, Delamont and Atkinson (1995) draw attention to the more sociological orientation in Britain, where educational anthropology does not really exist. They suggest that American anthropological texts establish a much stronger sense of place and territory, emphasising cultural pluralism and the potential

¹³ See Gregory *et al.*, 1994; Massey, 1999c; Richards & Wrigley, 1996.

clash with white middle-class America represented by the school. However, the social and organisational processes that accomplish this in corridors and classrooms remain implicit, hence American anthropology would benefit from a more systematic ethnography of schooling. In contrast, in many British educational ethnographies '*the world beyond the school hardly exists*' (ibid p.40). They suggest this is related to British sociologists' preoccupation with the negotiation of everyday life *in* schools, which may obscure the relationship between schooling and the local culture, ethnic and/or class structure, and which is to some extent reflected in this thesis.

Nespor, an educational anthropologist, suggests that ethnographers (perhaps particularly those in education) are prone to studying sites that are '*culturally defined as well-bounded and self-contained*' (Nespor, 2002, p 484). He critiques one of the few studies which explicitly focuses on issues of spatiality and embodiment in schools on precisely this basis. Gordon, Holland and Lahelma (2000a) focused on two schools in Helsinki and two in London, but Nespor suggests that failing to acknowledge what goes on beyond the walls of the school led them to see pupils (and teachers) in terms of narrowly school-inscribed attributes. He emphasises that particular sites such as schools are not neutral or 'natural' forms and casting them as social and temporal islands allows a re-territorialisation of wider influences as school (or pupil) problems. Hence the need for a 'topological approach' to such studies, as outlined in chapter three.

3.0 Methodological challenges in researching schools through case study

Generalisability

A common criticism of case study within the academic community is its lack of 'scientific generalisability' (Yin 1994; Bassey, 1999). However, I would argue that there is overconcern with generalisation as a goal of social research. Much qualitative research in schools and classrooms is not actually concerned to do this - rather to *'produce adequate descriptions of educational contexts and analyses which highlight and explain the social processes that shape and influence teaching and learning in schools'* (Hitchcock & Hughes, 1989, p.37). Attempts to produce generalisations form the basis of school effectiveness research which then however, fails to take account of 'local contexts' of action as discussed in chapter one, thereby limiting the power to influence the life of individual schools (Angus, 1993; Lauder *et al.*, 1998; Slee *et al.*, 1998).

The wider application of findings is of course an issue that must be addressed, particularly where educational research has a distinctive and defining purpose (rather than research on, or even in, education), which is that it *'aims critically to inform educational judgements and decision in order to improve educational action'* (Bassey, 1995, p.39). In highlighting ways in which space makes a difference in the study schools, possibilities for making changes in other schools are illuminated, as discussed in the concluding chapter. A thesis is a process as well as a product and insights from the last three years have already informed practical projects such as the Networked Learning Communities initiative (Networked Learning Group, 2002). Here, then, I would join McDowell who draws on the ideas of Harding's 'standpoint epistemology'

and Haraway's 'situated knowledges' to call for the '*construction of committed passionate, positioned, partial but critical knowledge*' (McDowell, 1992, p.413).

Stake (1994) suggests that the particularity represented by the researcher through case study provides a vicarious experience for the reader to allow naturalistic generalisation, drawing on their tacit understandings of the phenomenon in question, and most audiences for this thesis will have extensive experience of education and schools. Simons argues that the study of a singularity allows the understanding and illumination of the highly contextualised nature of teachers' work. In uncovering '*the paradox of case study*' Simons (1996, p.225) argues elegantly against the polarity implied in generalising from researching complexity in a single case. Drawing on Eisner, she uses examples from the world of art, where a single work, for example Cezanne's depiction of a tree, can transform the way we see the world (of all trees).

*'Paradox for me is the point of case study. Living with paradox is crucial to understanding. The tension between the study of the unique and the need to generalise is necessary to reveal both the **unique** and the **universal** and the **unity** of that understanding. To live with ambiguity, to challenge certainty, to creatively encounter, is to arrive, eventually at 'seeing' anew'* (Simons, 1996, p.238) (author's emphases).

In employing the perspective of spatiality as a means of moving beyond binary approaches, case study was therefore an obvious choice.

Carr and Kemmis (1986) advance an action research approach through a critical educational science. They critique positivist and interpretive traditions both, but advocate combining them in a social theory critical of a status quo (which can never of

itself be neutral). Education is a practical, value-laden activity and I agree with them that it is the post-modern challenge to reconstruct emancipatory education in the light of changing theoretical categories. Although not following the distinctive methodology, I also subscribe to the emancipatory aspirations of critical theory. Here research aims at creating concepts which seek to transform understandings of the oppressive relations of power that particularly disadvantage some people, for example, in relation to the hidden coercion of centralised control over curricula and teachers' conditions of service (Gore, 1992; Luke & Gore, 1993). It further aims to enhance the possibilities of collective action in this process (Gitlin, 1994; Morgan, 2000b; Peters, 2003).

Theorists in critical pedagogy are now seriously engaging with spatiality as a means of understanding the intrinsic relation between space and power (Lankshear *et al.*, 1996; Edwards & Usher, 2000, 2003). Current work in this area is developing powerful analytical tools for uncovering the hegemonic regulation of schooling and the curriculum through the operation of space. For instance, Fisher argues cogently for challenging systems of social control through a critical pedagogy of space, examining how *'active engagement with space and place within schools can demonstrate resistant and emancipatory possibilities for those who are disadvantaged'* (Fisher, 2002b, p. viii).

A similarly central premise in this PhD project is that *'space makes a difference'*, and while this is not at all action-research (Creswell, 1998; Robson, 1993; Walker, 2000), I discussed the emerging perspectives on collaboration and spatiality with staff in the schools in a variety of formal and informal ways to test the meaning they made of the emerging concepts. This belief has also led to my involvement as a researcher with

practical projects such as School Works (2001) and Networked Learning Communities (2002).¹⁴

3.1 Familiarity

Not only does space hide things from us (Berger in Soja, 1989) but the taken-for-granted nature of interactions in schools makes spatiality particularly challenging to research. The school as an educational setting is intensely familiar to most readers and the ordinariness and routine of the classroom particularly so for teacher-researchers who have spent most of their life in such institutions. To counter this, further strategies were explored (Delamont & Atkinson, 1995). Studying the unusual or contrasting with other cultures were rejected - it is precisely the everyday situation that was being investigated in relation to teachers' workplaces. In reading and theory-building, I have, however, drawn on sociological studies of work and learning in non-educational settings, both in geographical literature (Tooke, 2000; McDowell, 1997; Massey, 1998; Wright, 2000) in organisational theory (Gherardi, 2000; Goffman, 1969; Lee & Hassard, 1999; Wenger *et al.*, 2002) and educational institutions other than schools (Acker & Feuerverger, 1996; Becher, 1989; Delph-Janiurek, 2000; Jamieson *et al.*, 2000).

A further challenge lies in the way that teachers commonly fail to acknowledge gender as an important dimension in schools. Studies of teachers as an occupational group reveal a lack of awareness of ideas of gender as socially constructed and of the school's role in maintaining sex roles (Acker, 1994; Coffey & Delamont, 2000; Acker, 1999; Kenway *et al.*, 1998). Direct questioning on the influence of gender met with mixed, but

¹⁴ The Networked Learning Communities initiative is a DfES funded research and development project designed to investigate and support individuals, groups, schools and networks in learning from, with and on behalf of each other (Jackson & Leo, 2003).

often negative responses. It was here that photographic and '*artful representation*' (Black, 2002, p.73) techniques to elicit meaning and emotional responses were particularly useful.

4.0 Methods

The design of the fieldwork was emergent and progressively focused across three 'data collection' phases (*Appendices I & II*). It was organised around four areas suggested by the parallel work of Heather Jacklin (2000) and a notional 'hierarchy' of common understandings in relation to space and spatiality. These are outlined below, followed by a more detailed rationale for the use of particular techniques in the research process. Appendix III is an heuristic which 'maps' the contribution of the different methods to the areas of the main theoretical propositions. This device was used in planning and checking the coverage and congruence of the activities.

4.1 The school in space

In order to locate the schools in relation to system-wide criteria and policy trajectories, I collected documents at the interface of the school and beyond, such as Ofsted Inspection reports, 'PANDA'¹⁵ data comparing each school in detail with similar others, school brochures, and local newspapers etc. This broadly coincided with the first phase of data collection, although it continued throughout the fieldwork (for example when Kingbourn had an Ofsted Inspection in the spring of 2000 and when an 'Internet war' broke out between the students of Brythnoth and the nearby public school). In addition, throughout the fieldwork I gathered documents such as bulletins, memos and

¹⁵ PANDA data is based on the annual schools census returns and is published annually for each school.

newsletters, many of which were circulated to the staff and reached me through the ‘pigeon holes’ that I had been given in both schools. I thereby became part of the paper communication network.

4.2 The school as (material) space

To understand the physical architecture and location of the schools, the emphasis was on collecting maps, plans and aerial photographs of the buildings including mapping their use at various, formal and informal, times. During the second phase of research, I began to take photographs of the grounds and buildings and also workspaces such as offices and staffrooms.

4.3 The school as a container for social interactions

Staffing structures and teaching loads in terms of time and space were ‘mapped’ from the timetable, using the computerised systems now ubiquitous in secondary schools, to highlight patterns (for example in relation to the movement of part-time staff between different classrooms). There was also the observation of formal meetings such as those of departments and the senior leadership team, and briefings in the staffroom. This extended to informal times such as before and after school, and break-times, and also included the serendipitous interactions that I witnessed in corridors or offices. As part of the second phase of investigation I modified the grid survey of interactions which had effectively been piloted during the collaboration study (McGregor, 2000a). An iterative series of conversations and semi-structured interviews with staff interwove with the developing use of methods such as observation, photo elicitation and ‘mental mapping’.

4.4 The school as social space

This was the closest to the spatiality of the school in conceptualisation and was most congruent with the second and third phases of investigation in each school. Observation of the use of space and interactions between people, events and dispositions, continued, although more guided by following certain ‘leads’ (the mapping of which also formed part of the data collection) than a naturalistic sampling strategy (Miles & Huberman, 1984); these were then followed up in semi-structured interviews. Some staff in both schools had been asked to photograph their workplace using disposable cameras, or to draw it impressionistically, and these photographs and ‘mental maps’ plus the graphs/heuristics resulting from the grid of interactions formed part of some of the interviews.

4.5 Locating interaction - use of a survey instrument

As one means of exploring when and where staff perceived themselves as working together in different ways, volunteers were asked in staff meetings at both schools to indicate on a grid where, when and with whom they commonly engaged in particular workplace interactions. From a list of twelve potential interactions and sixteen ‘locations’ staff (which included learning support staff in both schools and student teachers at Kingbourn) ticked where they perceived this occurring. (*Appendix IV*) My previous study on teacher collaboration in the workplace built on the work of Little (1990a, 1982), suggesting that some forms of interaction between colleagues might be more important than others in building capacity for improvement or leading to workplace learning, as explained in chapter four. From a list of 72 potential interactions, generated through socio-linguistic analysis, Little identified a number of ‘critical practices of success and adaptability’ (1982, p.332) most likely to lead to workplace

learning and the development of productive joint working relationships, which might then be indicative of a community of practice. These forms of joint work were represented on the instrument in this study by:

- ◆ *Design & prepare materials together*
- ◆ *Prepare work-schemes together*
- ◆ *Dialogue around teaching and learning*
- ◆ *Observation with feedback*
- ◆ *Persuade others to try an idea or approach*
- ◆ *Make collective agreements to test an idea*
- ◆ *Mark & moderate work together*
- ◆ *Joint research/evaluation*

At Kingbourn, 92 staff – including support staff and students (51 male) completed the grids indicating where, when and with whom different forms of interaction commonly took place. The average number of responses (ticks) was 44 (in comparison to 91 in the 1998 study, which was undertaken in a different way – i.e. on a limited department basis and in specific meeting time). At Brythnoth 28 staff completed the grids, with an average number of responses at 28 (in comparison to 49 in 1998).

A template was set up in Excel and individual responses entered, with the resulting grid providing a numerical summary. This was effectively a ‘map’ of perceived interactions and although I did not perform statistical gymnastics beyond those described in chapter four, graphs of various kinds were used as heuristics to discuss emerging patterns with staff in interview. The results further informed choices to focus on particular departments.

4.6 The spatiality of the fieldwork - observation

Ball describes 'naturalistic sampling' as the '*dispersal of the researcher's time and energy in the organisation by places, persons and times*' (Ball, 1990a, p.162). A crucial element lay in the observation of particular places, such as staffrooms and 'the office' but more generally around the school. Following the notion that this gives an indication of social, and therefore power, relations (Paechter, 1998a), I drew a series of conventional-style maps at different times indicating where people were sitting in the staffrooms, in addition to location maps indicating where staff were found at different times, such as breaktime (*Appendix VIII*). I had thought of 'shadowing' teachers for a day, to draw out gendered differences in time-space paths, as suggested by Rose (1993b), but my fieldwork time was limited.

I took copious fieldnotes, which I attempted to type up at the end of every day, although at the intersection of home and work this aim was not always achieved. On some occasions, with permission, I audio-taped meetings and a break-time in the science department at Kingbourn. Hammersley (1984a) questions whether it is possible to sample staff interactions randomly (for example going into the staffroom) for a short period, and in the event, it was practicalities such as pre-set interviews and meetings that dictated the pattern of such observations over the course of the fieldwork.

During 'informal' times, such as at break in the main staffrooms I occasionally sat and drew seating plans or openly took notes on exchanges and interactions, but more usually wrote up interchanges and conversations afterwards, as I was not focusing directly on staffroom talk like Hammersley (1984b) or Cunnison (1989). This note taking in retrospect however, raises additional questions of interpretation, as well as the ethics of

not being seen to be in researcher role. Nespor (1997) explores the notion of the researcher as context in terms of the impact of their presence and certainly jokes were made to this effect in the staffrooms.

4.7 Interviews and conversations

Talking to adults in the school was a crucial element in the fieldwork and this took place in different places and times, creating particular spatialities. I recorded 50 interviews in the schools and 35 'conversations'. These were effectively differentiated by (my) intention, with the latter being largely serendipitous; they were, however, sometimes recorded, with permission, if my tape machine was available and if they seemed to be developing. This, of course, raises a question in relation to the respondent's perception of the value or worth of the interchange (to me), but while people occasionally expressed a dislike of hearing their own voice no-one refused a request to tape record.

Interviews were pre-planned and could be described as semi-structured in that an overall schedule was prepared and modified on several occasions (*Appendix V*) (Cohen & Manion, 1994; Robson, 1993). This was used as a template and individual questions added or modified according to the interviewee. Sometimes photographs that the teachers had taken formed an important element of the interview in eliciting and discussing meanings. Interviews took place wherever the respondent chose, in offices, classrooms, the empty staffroom, all of these being workplaces in themselves, with the very occasional exception of a bench outside in the sun. I did not really experience the particular gender differences that Paechter (1998b) described in relation to the use of the space of the interview as a confessional. However, I was more likely to be asked my

opinions and also advice by younger female teachers, which accorded with Oakley's (1981) observation that 'interviewing' women was a contradiction in terms.

5.0 Representing the school as workplace

Space as it has been commonly understood and represented has been fixed and silent, constituting an effectively invisible backdrop to the complexity and vibrance of social life. As discussed in chapter one, Soja (1989) suggests that the significance of space is masked by two illusory perspectives of opacity; an essentially empiricist focus on immediate appearances, and the illusion of transparency, representing spatiality as a mental construct divorced from materially-embedded social relations. The methodology of this study was designed to provide a more holistic lens to capture the spatiality of the workplace. Hence, in seeking to observe and reveal 'the invisible', and to overcome the lack of a spatial literacy which obscures the influence of space in schooling (Fisher, 2002a), a variety of methods was employed to represent meanings of space.

If cultures in schools are expressed and created through '*ceremonies, rituals, artefacts, non-verbal communication and constructed environments*' (Prosser & Warburton, 1999, p.82) they are reciprocally created through the making of meaning in the interaction of actor-networks that construct the workplace (Becher, 1989; Holloway *et al.*, 2000; Nespor, 1994). It is therefore necessary to use techniques to capture the immediately observable and elicit the intellectual and emotional meanings ascribed to elements of it, hence the decision to use photography and drawing and metaphor. I took photographs as an information source and provided cameras to teachers to record their workplace, as described later. Some teachers were asked to draw 'mental maps' and I actively sought

their metaphors for the workplace. In this section, I explore the rationale for the use of images in the research process and further describe the methods used.

As a '*multi-faceted endeavour*' (Black, 2002, p.73) the work of teachers is increasingly demanding and ambiguous (Hargreaves *et al.*, 1998; Kyriacou, 1989; Mcveigh, 2001). To gain access to teachers' knowledge and experience of the school as a workplace, a variety of conventional strategies such as interview have been described, aiming to elicit what is often tacit. In addition, '*artful representations*' (Black, 2002) were drawn on through the construction of 'mental maps' to explore how teachers and other adults in school were making sense of it as a workplace. In addition to the written and verbal narrative which is now widely used in educational research (Connely & Clandinin, 1990; Griffiths, 1995), non-linear forms of representation such as metaphor, photographs and drawing were chosen for their potential for revealing perceptions and emotions and stimulating memory and reflection (Black, 2002; Rose, 2002). This also enabled a small move away from the privileging of text as words in the thesis (Walker, 1998).

Weber and Mitchell use 'image' to refer to '*an idea, mental representation, or conception that has a visual or physical flavour, an experimental meaning, a context or history and a metaphorical, generative potential*' (Weber & Mitchell, 1995, p.21). Images may provide a nexus of threads reaching back into the past, drawing together elements of different kinds of experience and feelings and reaching into the future, hence they form a particularly important dimension of the methodology employed. In describing recent developments in visual sociology, Harper (2002) suggests that using images as well as words evokes a larger universe and different character of information in a research interview or exchange: this helps to bridge the gap between the worlds of the researcher and researched, encouraging collaboration in the discussion of meaning

and hence enabling a more lateral power relationship. Educational researchers using visual methods, particularly where respondents generate their own images, point out a fundamental relocation of ownership and authority in the generation and interpretation of images as data, especially where children are involved (Karlsson, 2001; Schratz & Steiner-Löffler, 1998, Walker, 1993).

5.1 Use of metaphor

In this thesis, metaphor is used as a theoretical, empirical and analytical tool. The use of metaphor was an obvious methodological choice in seeking to elicit the meanings space-times had for people. Weber and Mitchell make extensive and effective use of images, metaphors and stereotypes to interrogate the '*cumulative cultural text of teacher*' (Weber & Mitchell, 1995, p.1) exploring popular images of teachers and teaching. Metaphors and images shape and are shaped by views of what the job of teaching is '*the sage on the stage or the guide by the side*' (Berwick Patterson, headteacher, Kingbourn), the purpose of schooling and the nature of schools. Metaphors can be used to transfer meaning from one register to another, which was the particular aim in asking staff what metaphor(s) they would use to describe 'what it is like to work in this school'. I hoped this would provide an opportunity for people to reflect on and express their experience and feelings concisely but powerfully.

Hannay (1996) discusses the importance of images in the process of secondary school reform as embodying experience (of teaching) with expression in practice and as a perspective from which new experience derives. In a study of 162 Tasmanian teachers in 48 schools, using a questionnaire of pre-provided metaphors (school is like a ghetto, museum, prison etc), Fisher and Grady (1998) demonstrated a strong relationship

between the teachers' images of the school and their perception of it as a work environment. The images the teachers chose were unsurprisingly similar to those arising in the work of Gordon *et al* in spatial studies of schools in England, Scandinavia and the USA (Gordon & Lahelma, 1996; Gordon *et al.*, 2000a). I hoped that similarly grounded metaphors would emerge, demonstrating common perceptions or understandings, deriving from teachers' experience and histories, and providing an insight into the meaning the workplace had for them and thence an additional heuristic of the school.

Metaphor is also importantly used in this thesis as a device and a process, to disrupt existing frames and provide a trial or potential concept for changing meaning, as demonstrated by Stronach *et al* in moving from '*economies of performance to ecologies of practice*' (Stronach *et al.*, 2002, p.135).

5.2 'Mental maps'

Past experience with pupils in school suggested that simply asking individuals to draw their 'mental maps' of, for example, their school or neighbourhood, was a particularly useful means of both eliciting information and the emotional responses evoked by certain places/space-times. The importance of emotions in teachers' work is increasingly recognised (Golby, 1996; Hargreaves, 2002, Sachs & Blackmore, 1998) as important and work with narrative (Ben-Peretz, 1996; Connely & Clandinin, 1990; Grumet, 1991) and images suggested that this was a fruitful way into the representation of feelings about the workplace. Precisely because of this, caution was counselled by colleagues who had used such devices during in-service work when emotional/power issues could be raised which were beyond the scope of the occasion. Hence, I used this

technique in the second phase of the fieldwork in both schools, with individuals with whom I had established relationships.

At Brythnoth, I used the opportunity of an informal meeting after school to ask teachers to draw 'their workplaces'. I canvassed the opinion of particular individuals beforehand and adopted the strategy of attending the meeting as usual but equipped with A3 sheets of paper, a variety of felt pens and good quality cream cakes. Ten staff, drawn from five departments took the paper and completed the drawings, largely in silence, diligently and substantially alone, although there were sporadic comments and jokes which I noted. I later discussed the sheets with individuals, either during interviews or conversations (Figures 2a & 2b).

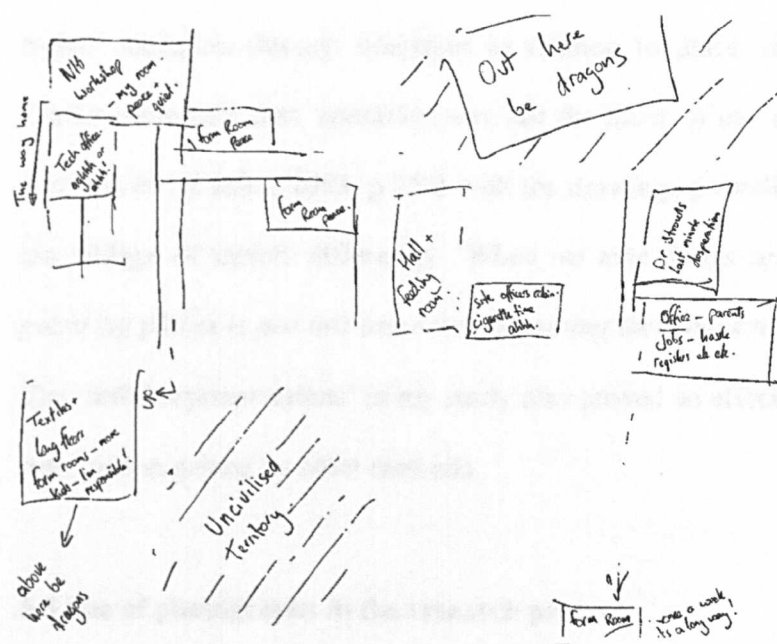


Figure 2a
Mental maps
- Brian
Simon,
technology
teacher,
Brythnoth

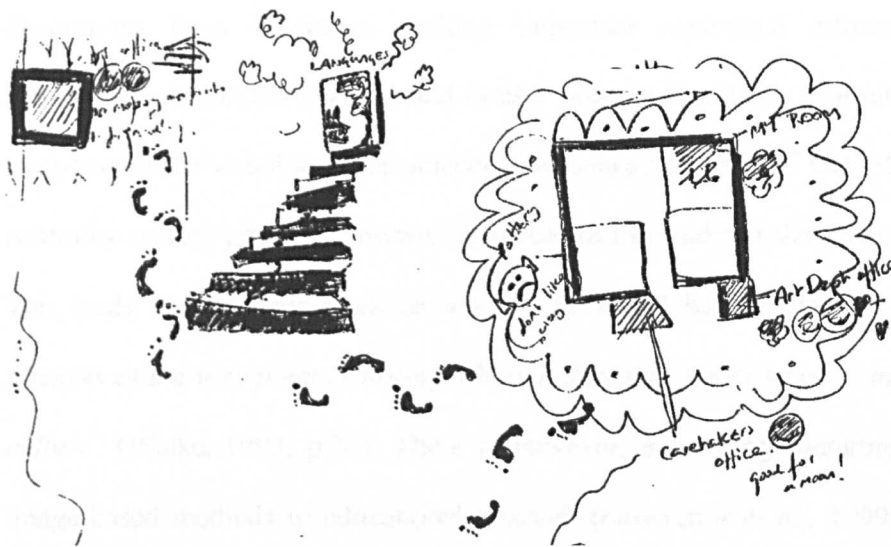


Figure 2b
Mental maps
– Hilary
Shaw,
art teacher,
Brythnoth

At Kingbourn four staff in the humanities curriculum area completed the exercise with me at separate times, so I was able to ask them the meanings of the drawings there and then. The images then had to be scanned onto A4 sheets to be stored electronically. Clarke et al (2002a) used a similar technique in exploring concepts of flexibility in higher education through questions in relation to place, time, funding and change. Clarke comments that *'spatiality was not the focus of our enquiry but it cropped up everywhere'* (Clarke, 2003, p.154) with the drawings providing a means of 'seeing' an assemblage of factors differently. *'When we take things apart to look at the pieces, picturing places is just one more way of putting them back together again'* (ibid p.154). The 'artful representations' in my study also proved an effective means of triangulating information gained by other methods.

5.3 Use of photographs in the research process

Ethnography and social anthropology traditionally use film and photography in case studies, but this has rarely happened in educational research (Prosser, 1992). Where photographs have been used they are often 'found images' such as pictures of graffiti or

illustrations from brochures, lacking important contextual information therefore substantially illustrative. Walker and Becker propose that this is a result of a systematic exclusion of the visual in social sciences, influenced by fears of lack of objectivity and neutrality in the 'progress' towards 'science' in the study of the social (Becker,1998). This leads to the ironic situation where *'the visual has become silent in the social sciences at the very point in history where it dominates both science and contemporary culture'* (Walker,1993, p.74). There is however, a growing literature on the use of image-based methods in educational research (Grosvenor *et al.*, 1999; Prosser, 1998; Silverman, 2001). Pink (2001) however, critiques the approach of visual sociologists such as Prosser for merely incorporating a visual dimension into established methodologies.

The photography in the project comprised both researcher and participant generated images. Initially, I took photographs with a digital camera to record and examine situational and 'proxemic data' (Prosser & Warburton, 1999). This included room layout, signs and labels indicating the relationship of space and social patterns such as the location or absence of a teacher's desk in a classroom. Photographs also provide a 'cultural inventory' (Prosser & Schwarz, 1998) by recording a range of artefacts and their (spatial) relationship to each other, thus suggesting cultural patterns of which they are an expression and a contribution (as with the 'Staffroom' notice at Brythnoth which had fallen off the door or the clock drawn on the staffroom noticeboard with its hands perpetually at 'going home' time). As the work progressed I became more confident in photographing the juxtaposition of objects, generally from the doorway.

The use of (still) photography cannot, of course, represent the way in which space and place are constructed through particular versions of interrelational performances

(Massey *et al.*, 1999) or the intrinsically open and dynamic nature of spatiality. I decided (rather too) early in the project not to photograph people because of the ethical issues involved in getting permission and the distance that a camera creates between the researcher and participants. However, still photographs as data can usefully grasp the complexity and particularity of a moment in time and space, and suggest the discursive nature of spaces (Pink, 2001; Rousmaniere, 2001; Rose 2001).

During the study, I was able to explore the 'backstage' world of the school (Goffman, 1969) insofar as I had access to the staffroom, toilets, office and so on and I was welcomed into department offices and areas on request. In some frequently visited locations such as the staffroom and science departments in both schools, I was able to come and go freely. To access a more authoritative 'insider' view of the teachers' workplace, I gave 11 teachers (*Appendix VI*) from selected departments (science, art, P.E. and English) black and white disposable cameras with a flash, and wrote a protocol asking them to take pictures of their workplace. Three of the cameras were lost before any photographs were taken, although subsequent interviews with those staff suggested it was pressure of work and lack of organisation rather than reluctance to participate. They were asked to request permission if they wanted to include pupils and colleagues in the pictures.

Self-recording has other strengths as a data-gathering method within the spatial and temporal process of the research. There is arguably less 'researcher effect', with the individual having more power/ownership over what is presented. Participants can take more time to reflect on what the workplace means to them. In practical terms the use of a small disposable camera also allowed greater immediacy in capturing images, including different locations 'outside' the school. On reflection, having read Karlsson's

(2001) work with school pupils in South Africa I would also have liked to ask the teachers who used the cameras to have someone photograph them in a chosen location to illustrate their particular 'resting place of identity' (Hanson & Pratt, 1995). In further studies I would also include staff other than teachers, but this insight came too late in the process.

In my study, the photographs that teachers took were used as an element in progressive focusing in interview, to elicit the meanings attached to places (Harper, 2002, Prosser, 1998), to produce knowledge together, and also in triangulation (Pink 2001). As hoped, they did prove *'especially useful in mapping affiliations and role perspectives of people in the school'* (Prosser, 1998, p.403). If photographs can be used to elicit a view of the world as well as what an individual initially 'sees', then they provide a means of accessing cultural knowledge to highlight *'the interconnectedness between places, rooms, areas and feelings, emotions and associations'* (Schratz & Steiner-Löffler, 1998, p.249).

The public image of the institution is an important consideration, carefully managed in both the case study schools through the production of brochures and web site materials, largely representing the view of the headteacher and governors, which differed in form and content from the images produced in the research. These did however provide further data, but I did not address the disjunctions between them as did Clarke *et al* (2002) within further education.

5.4 The place of anonymity

The ethics of representing a selection of images of the institutions in the thesis is a complex area. As previously discussed, I had decided not to photograph people, which I

subsequently regretted, but I asked, and was given, permission to reproduce the teachers' own images¹⁶ although none requested the copies that I offered them. In reproducing some of their images of children here, I decided to use the blurring facility now available (which of course raises questions about the possibility of manipulating images and therefore their potential veracity). I also gained permission to use the photographs from the headteachers at the time the photographs were taken, although neither asked to see the final choice of material for the thesis.

While the schools and participants were given pseudonyms early in the research, it is not technically possible to preserve the anonymity of an institution when using images, beyond making sure that identifiable names on noticeboards etc. are erased. In any case, as Ball (1984), found in his 'Beachside' ethnography, the extent of anonymity in any text can be debated. Nespor (1997) addresses this issue in his extensive study of Thurber, where he acknowledges that identifying the county and state the school is located in could pinpoint it for a determined person. However, this applies to most such studies and as Nespor points out, schools studied at particular space-times are no longer the same schools once the study is written up. At Kingbourn and Brythnoth for example, there has been a significant turnover of teaching staff in the last two years.

Nespor argues that the use of pseudonyms and the anonymisation of places and settings '*naturalises the decoupling of events from historically and geographically specific locations (and with the way location or place itself is conceptualised)*' (Nespor, 2000a, p.549). He links this with the privatisation of the public sphere in North America where the contingent and unequal power relations that construct an entity like a school, are

¹⁶ And in the sad case of Martin Best I felt it necessary to seek further permission from his relatives, as he died during the writing of the thesis.

obscured by representing it as a discrete spatio-temporal entity.

'Anonymisation, by helping transform concrete, historically and politically contingent settings into private, anonymised, taken-for-granted regions, aligns researchers with a politics of space that diminishes the sphere of public discourse and contestation' (ibid, p.554).

He proposes that the ideas of spatiality, as conceived by Massey (1994) suggest the possibility of a different approach to theorising:

'Instead of obscuring how activities are anchored in historically situated places and times, a goal of research would be to explicate how such anchored activities, separated in time and space, get linked together to form a shared world' (ibid, p.558).

While convinced by his arguments and ethnographies, I am however continuing to use pseudonyms to honour the promises made to participants, while agreeing that their use in relation to place should be more contested.

6.0 Analysis

This research, while starting with the proposition that space makes a difference, was effectively inductive and discovery based, rather than testing a particular hypothesis. The focus of the research developed through an iterative analysis where the findings from one stage informed the collection of data for the next, although this was not the linear process that invoking a timeframe implies. Progressive coding techniques assisted in developing categories to allow theories to emerge (Miles & Huberman, 1984;

Paechter, 2000; Bartlett & Paynes, 1997) as frames such as topologies, communities of practice, and Actor Network Theory developed in parallel through reading.

I used a computer aided qualitative data package, Atlas Ti (Muhr, 2001), which combines computing techniques with methodological perspectives associated with grounded theory. This stores interviews, conversations, fieldnotes and memos and can also be used with images. A series of codes were developed 'in vivo' but it became clear, as Clarke *et al.* (2001) found, that the conceptual mapping tool the programme offered provided neither the time-cost benefits hoped for, nor provided a conceptual advance. Coffey, Holbrook and Atkinson (1996) express concern that such tools can give qualitative research a misleading scientific gloss while arguing persuasively for employing computer techniques in representing ethnographic research, such as through the use of hypertext.

7.0 Representing spatiality

Representation is taken here to be a process of transforming consciousness/thoughts/ideas into a public form '*so they can be stabilised, inspected, edited and shared with others. Representation is what confers a publicly social dimension to cognition*' (Eisner 1993, p.6). Clarke *et al.*, (2002b) explore 'the visual turn' in educational research through alternative forms of data collection and representation in relation to 'the tyranny of literacy' in the context of a Sure Start programme. Qualitative research conventionally relies on words to investigate and articulate concepts, for example through fieldnotes, interviews and conversations. The language used in such observations and interchanges creates frames for knowledge, no matter how much we ramble around. This is particularly problematic when investigating the influence of

space as spatiality, a concept with which people are unfamiliar. Thus, as Eisner suggests, it is important to '*exploit different forms of representation to construct meanings that might elude us*' (Eisner, 1993, p.6) in terms of understanding how schools work spatially, hence the use of visual materials in this study. Spatial cartography as conceptual mapping, Roland Paulston argues, enables us to '*see something different*' in what we already know (Paulston, 2000, p.310), but while the thesis was informed by his arguments, the heuristics were not developed.

The hegemony of words in representing research arguably 'others' the use of photographs. However, Walker (1998) suggests they in turn can undermine the implicit authority of the written word. In the location of a thesis, written text is evaluated, policed and controlled, as a means of maintaining hierarchies and the relationship between written and visual text it creates. While Prosser and Schwartz advocate photographs to augment fieldnotes, by showing '*characteristic attributes of people objects and events that elude even the most skilled wordsmiths*' (Prosser and Schwartz, 1998, p.116), Pink argues for a more distinct approach to making and understanding visual images and technologies '*in relation to a reflexive approach to ethnography that focuses on subjectivity, creativity and self-consciousness*' (Pink, 2001, p.14). The approach used here does not deliberately privilege one method of 'data' collection or representation above another, including graphs from quantitative data alongside 'mental maps'. However, as Clarke (2003) wryly comments, a picture is worth more than a thousand words (in a 98,000 word thesis) in terms of the kilobytes of computer memory they require!

8.0 Locating myself - research as an intersection

If research itself is created and recognised as an intersection of flows and trajectories extensive in time and space (Nespor, 1997), then it is particularly crucial to locate oneself in the research process. The conceptualisation and investigation of a research problem, the interpretation and application are intertwined and, in naturalistic research, particularly visible. I was aware that the use of the self as a primary research tool in ethnography requires a reflexive '*self-conscious engagement with the world*' (Ball, 1990a, p.159) with particular attention paid to the impact of the researcher on what is being studied, and issues of relations and power in the process (Paechter, 1998b).

Power is central to the research process. How we locate ourselves and others illustrates this, for example in traditional approaches to research, casting people as 'subjects' to be studied, controlled and manipulated. (Gitlin & Russell, 1994). In this PhD project it quickly became clear that locating myself in the research process was fundamental, to identify hidden assumptions and make sense of the interrelations of the schools of which I was, in some ways, a part. As the study progressed (though that is a problematic notion in itself), the social production of knowledge and the situated nature of learning highlighted the importance of the spatiality of the study itself. In this section, I will discuss some of the issues that arose in the power-geometries of the research process and try to give an impression of how I experienced my positioning at various stages of the journey through it.

I had come into the two schools to research collaboration during a one-year secondment from my job as a head of department in a local village college. I took up a research fellowship in educational policy at a Cambridge college. Moving from the hurly-burly

of a secondary school to the relative calm of (an all-female) college provided me with the time and opportunity to reflect on my changed role and aspirations, not least in the context of exploring the interface between collegiality and collaboration. Visiting the school where I started my teaching career in the West Country as part of that study added a further time-space dimension to the thoughts and feelings I had about my place in education (McGregor, 2000c). As discussed by Maggie MacLure (1996) this was one of many moves in the transition from teacher to researcher, and joining a research community of practice. It was during this time that I began a research journal in which I recorded events feelings and dreams, under the title *'Locating Myself'*.

Ball suggests that the adaption of the research self to the field *'is much more like going on a blind date than going to work'* (Ball, 1990a, p.158), and certainly approaching Brythnoth and Kingbourn for the second time I experienced many anxieties; as I wrote in my fieldnotes (here reproduced):

Visit 29/6/00

On my drive (grey & rainy) I feel quite apprehensive about seeing people - will they think I have deserted or misrepresented them in the research and been looking only to my own ends? Anxious also about BT, as some of the recommendations I made could be construed as critical of him - he certainly created an elaborate induction process afterwards.

As I drive up to the school I see three estates of substantial new houses where before there was a sea of mud and drains. The school is no longer on the edge of town. As I walk in the door I see staff photos up on the wall (though hierarchically arranged. Is this the result of the work last year or a response to Ofsted? My Ofsted good-

luck card is still on the noticeboard in the staffroom plus a newsclipping I put up.

I spend an hour talking to the Head, catching up about the inspection and her mother etc - she does seem to talk freely and honestly and I don't take notes until I have asked her if I can come in again and research. I share my concerns with her and she says quite rightly that people will not actually remember even care - this is borne out by the fact that some people are obviously confused as to how long ago I was last here (now almost a year).

8.1 Back to the future

The disjunctions and continuities in the space-time that was the school for me, and the social and psychological processes of the fieldwork as I experienced them, thus formed an integral part of the data gathering for the PhD and interwove with memories raised by the encouragement to write about my own experiences of teaching. Issues around my own identities arose, as I charted my feelings in the journal, stimulating considerable reflection on the 'exit work' Maclure interrogates, in the *'loving and leaving of teaching'* (Maclure, 1996, p.277), and movement towards becoming a researcher. It is a common assumption that such a story is linear, cumulative and directional - that the past explains the present. Maclure, however, eloquently describes this experience as a liminal space in which the exit from the confinement of teaching is also a departure from an identity (of being a teacher), such transitions representing *'movements back to the future'* (ibid p.277).

Through the process of study, I was also re-engaging with a very different kind of human geography as a university discipline than I had left as a graduate 30 years before.

New notions of space as dynamic and recursively created with the social were particularly liberating having striven to articulate such a developing view of my own through teaching school geography. As head of humanities I had rejected the division of the spatial, temporal and social into distinct subjects in the lower schools, although this was continually resisted by male history colleagues!

As Massey suggests, identities may be imagined in a relational rather than an exclusive way defined by '*the particularities of one's specificities in terms of multiple relations to*' (Massey, 1999a, p.6). During the course of the research, I thus variously identified myself with and as (geography/humanities) teacher, ex-teacher, researcher, college fellow, student and parent, within a range of power-geometries. This confirmed for me the relevance of framing identities as distributed (continuously) through space-time. The research as a particular intersection of experiences and space of reflection is here represented as identifiable space/place, which is bounded, but there is also a reality in which it remains open to all the possibilities the lens of spatiality affords.

Chapter Three - The study schools as intersections in space-time: workplace topologies

1.0 Introduction

This chapter uses descriptions of the study schools to illustrate the importance of foregrounding space in moving to an understanding of the question ‘What is the school?’ I follow the strategy employed in chapter one of describing the schools by moving through orthodox understandings of space as the physical environment and social space. I then explore their reciprocal relationship through the lens of spatiality as space-time. This suggests that schools are not the static self-contained entities with which we think we are familiar, but institutions which are continually being produced by interconnecting relationships and practices which extend in space and time.

Schools as (work)places are approached here as intersections of a unique constellation of relations. These extend in networks of interrelations and influences well beyond the classroom and the school, which is itself variably constituted by its ‘inhabitants’. The chapter continues the argument for a more dynamic and open conceptualisation of space, using a ‘topological approach’ to the study of schools (Nespor, 2000c). Nespor uses schools as a point of entry into the world of children, and in later chapters I use this move in relation to the school as a workplace for teachers. Here I aim to begin to explore the school through the lens of spatiality but also aspects of spatiality through the school. This further develops the case for reconceptualising what is commonly presented as ‘context’ as spatiality.

Studying schools can also tell us something important about the linkages between space and power. Space acts as a hidden curriculum for both pupils and staff. Critical theorists in education call for a greater understanding of how this operates and I illustrate in relation to the study schools how space may be read as a discursive text. Following the discussion of the construction and persistence of the classroom in chapter one, the use of classroom space in the study schools is briefly explored. This suggests how disciplinary power operates through the organisation and enclosure of individuals in space (Soja, 1989).

The text descriptions, quotes and images used in this chapter aim to suggest that the collaborations and work practices of the adults and pupils are anchored in a particular space-time, but where the places are constructed from influences extending beyond the institution in time and space. In some ways, using pseudonyms for the schools and staff yet presenting images and maps of the former may be seen as a fudge of the anonymity issue raised by Nespor (2000a) but the aim is to ground an understanding of the processes that produce and maintain places within wider networks.

2.0 Conventional understandings of the space of the study schools

The schools as physical space

Chapter one outlines how 'the school' as a building has evolved with strong commonalities across different physical locations and societies, reflecting the persistence of certain power relations and ideologies. Using photographs and plans, Brand illustrates how '*buildings learn*' (Brand, 1994, p.1), as he tracks socio-economic changes through interrogating the structures.

Physical architectures and plans are modified and change through time, and here the two schools are described as they were in the duration of the study, but also in relation to their history.

Brythnoth is an 11-18 comprehensive Community College, created from the amalgamation of two existing schools in 1986. The staff and students of Smitham Secondary school moved to join Purley Secondary on the present site on the periphery of a cathedral town in a Shire county. In the academic year 2000/1 there were around 1000 pupils, of whom 130 were in the sixth form, housed in a new building separate from the main school area surrounded by playing fields. A Special school had also recently been accommodated on the edge of the site (*Figure 3*).



Figure 3
Brythnoth
aerial
photograph

Like Kingbourn, the two blocks of the original school were constructed in the early 1970's comprising four-storey Coulsdon (*Figure 4*) and two-storey Purley. Both

buildings were in generally poor repair, reflecting years of lack of investment and proportionately falling budgets with rising rolls.



Figure 4
Coulsdon
Block
Brythnoth
2000

The plan of Brythnoth at the time of fieldwork (*Figure 5*) shows an arrangement of physical spaces typical of post-war English schools (Saint, 1987). For example, there was a large hall/dining area, now too small to accommodate all pupils at one time. This is a common situation that leads Golby and Appleby (1977) to speculate that traditional concepts of school as a community of place that gathers together face-to-face, are at risk. Typically, other large spaces were the gyms, drama studio and library. The arrangement of standard classrooms, grouped by subject area with specialist laboratories for science and workshops for technology are replicated at Kingbourn and in secondary schools throughout the country and indeed much of the world (Clark, 2002; Lawn, 1999; School Works, 2001; Siegel, 1999). Such disciplinary spacings legitimate divisions of labour and the curriculum and the resources to engage with it (Shilling 1991; Siskin, 1994) as discussed more fully in chapter six.

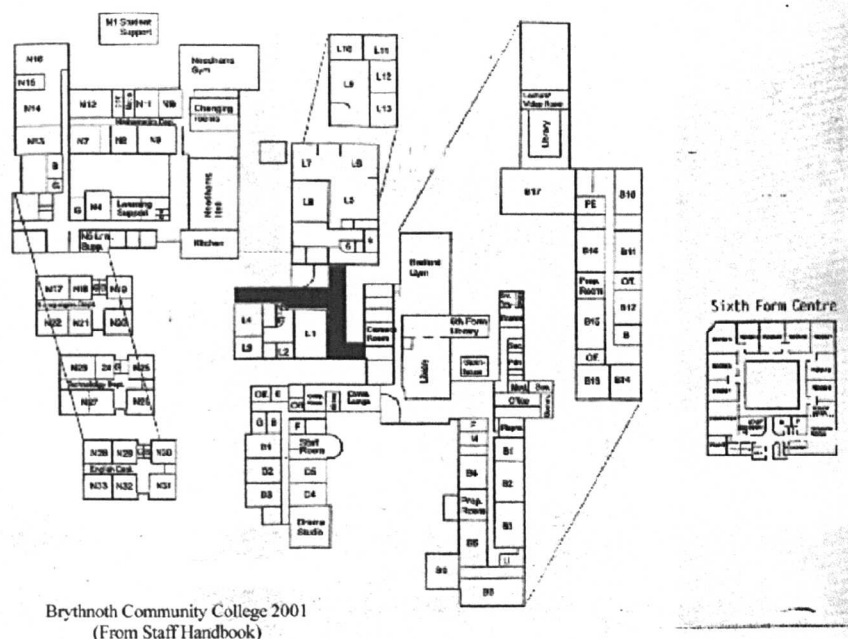


Figure 5
Brythnoth
Community
College
2001

Following the amalgamation by which the school was formed, Keston and Kenley blocks were built (Figure 6), including a new staffroom. The separate sixth form block was added in 1999. Despite its sunny aspect the main staffroom was rarely used, beyond weekly briefings and whole staff meetings (*Figure 7*). The label on the door had fallen off before I visited in 1998/9 and was still on a shelf in the staffroom in 2000, which was now only identified by a sign prohibiting access to pupils (*Figure 8*) thus demonstrating adult authority and ‘othering’ pupils while failing to emphasise a ‘corporate’ identity as a staff.



Figure 6
Keston Block
Brythnoth

The design of the Brythnoth site and the physical distance between buildings was cited by many staff as a barrier to using the staffroom at break (this is discussed at greater length in chapter four). This situation was perceived to be compounded by a lack of time and an intensification of work.



Figure 7
Brythnoth
Staffroom
2000

The school had originally been designed with department offices/areas and these were often described as people's 'bases'. In my earlier study, Martin Miller, a senior teacher, voiced the feelings of many of the staff expressed in interview when he said *'One thing*

undermines anything we do, we have so many departmental offices. The staffroom is the most underused room in the school, that has its consequences' (McGregor, 2000b, p.16).



Figure 8
Brythnoth
staffroom –
from pupils' side

I suggest he was referring to 'the staffroom' not simply as physical space but also as representing the body of staff. In contrast, the sixth form staff were portrayed as a cohesive and collaborative unit, working in what was commonly described as a '*civilised environment*' without the '*noise and mayhem of the lower school*' (Ursula Atkinson, pastoral assistant). The spatiality of this separation was recognised in the Ofsted report which stated '*The sixth form centre, which is apart from the main building, functions very much as a 'stand alone' community*' (Ofsted, 2000)¹⁷.

¹⁷ These reports are not referenced to protect anonymity as discussed in chapter two.

Kingbourn is a large and expanding 13-18 comprehensive Community College with over 1,500 students in 2000, one third of whom made up the sixth form. The bulk of the main school was built in the mid 1970s on the edge of a village (*Figure 9*), and in addition to the typical arrangement of hall, gym, drama studio, laboratories and classrooms, incorporated a farm unit (*Figures 10a & 10b*).



Figure 9
Kingbourn
aerial
photograph
1996

During the 1990s a building programme (*'Building for Excellence'*, managed by the bursar, Stephen Kendall) created a block for art and modern languages, and saw the construction of the sixth form centre in 1998 (*Figure 11*). In 1999, as elements in the bid for specialist media arts status, a music centre was built with television and recording studios, including seven audio/video editing suites in the media arts area. An extensive refurbishment programme included the networking of Information Communications Technology (ICT) across the school and remodelling of the staffroom. I argue later that this was to deliberately create a particular spatiality in relation to department areas and ways of working together.

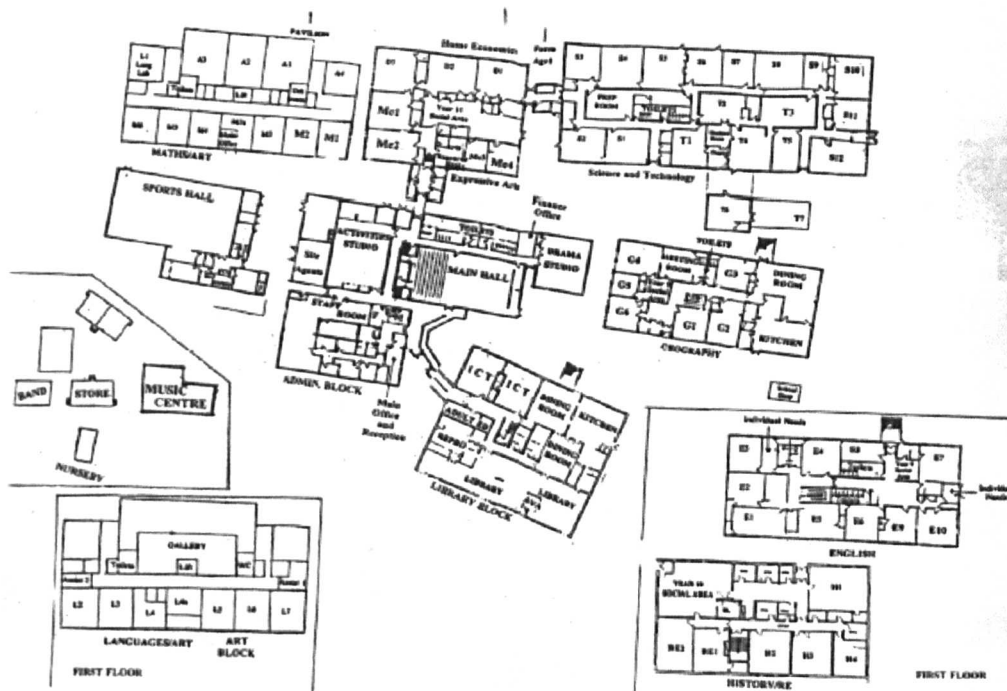
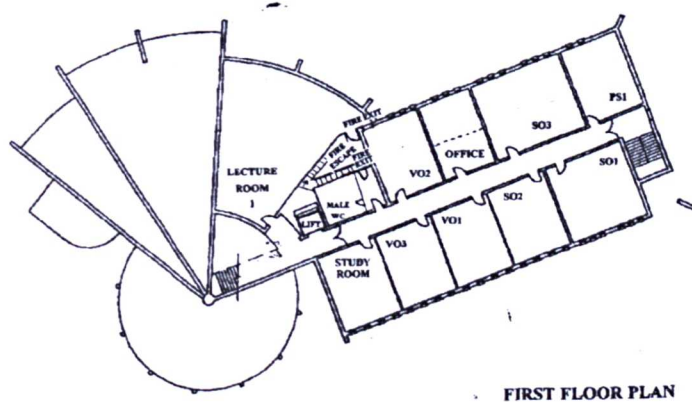


Figure 10a
Kingbourn
map

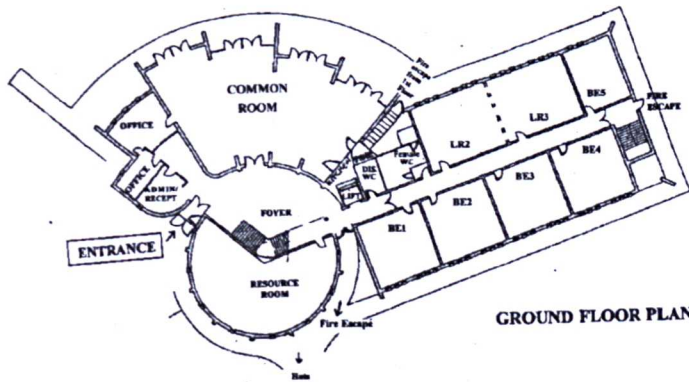
The physical distance from the sixth form block to the main school was mentioned as a problem in terms of the time taken to walk between the blocks in both schools. (Figure 11). ‘Mental maps’ illustrate this in the manner in which individuals often represented their workplace by including time-space paths (Clarke, 2003). The distance between blocks was otherwise not dissimilar to Brythnoth, but did not preclude the gathering of the bulk of the staff at break time in the main staffroom.

The large numbers of pupils in the sixth form (around one third of the school) also meant that the majority of teachers spent most of their time in one block or the other.



SIXTH FORM CENTRE

FIRST FLOOR PLAN



GROUND FLOOR PLAN

Figure 10b
Sixth form
centre,
Kingbourn



Figure 11
Art block
at Kingbourn

The sixth formers also had a greater presence in the main school, while having their own facilities in the new centre.

2.1 The schools as social space

Studies of schools as organisations commonly ignore the physical environment, beyond a consideration of vaguely defined ‘resources’, instead focusing on the social architecture represented as contained within the buildings. The organisational and personnel structures of secondary schools in England, and indeed much of the world, share certain common institutional features supporting particular regimes of schooling and reflecting powerful hegemonic discourses constructing the curriculum and relationships between staff and pupils.

The organisational features of Brythnoth included a typical vertical arrangement of pupils by age into ‘years’, with six form groups in each, with tutor and a head of year who stayed with them over the five years in the conventionally named ‘main school’. The mandatory¹⁸ National Curriculum was followed at Key Stage 3 (for 11-14 year olds) with the additional subjects of drama, and also business studies, in which much of the ICT teaching ‘took place’. Most subject departments divided the pupils into classes based on their notional ability, although drama, music and art had ‘mixed ability’ groupings. Twenty-two Advanced (‘A’) level and two General National Vocational Qualification (GNVQ) subjects were offered, although not all usually ran due to the small size of the sixth form, which had to be financially subsidised by the main school.

¹⁸ Only for state schools.

As Kingbourn was an Upper school, pupils joined in year nine (aged 13/14). The curriculum was broadly similar to that of Brythnoth, but with the inclusion of agricultural science and a core programme of expressive arts. ICT was taught throughout the six core curriculum areas. At the General Certificate of School Education (GCSE) level, pupils were also expected to take an expressive arts option, sometimes at the 'expense' of a foreign language, which was at the time a core curriculum requirement, indicating the importance the school placed on expressive arts.¹⁹ Due to the size and wealth of the sixth form, over 30 subjects were offered at 'A' level alongside ten GNVQ packages, with the option of one-year GCSE courses.

In studying the school as a workplace, it is important to review the staffing structures in relation to the gendered power-geometries in which individuals are located. While 66% of the subject (department) based teaching staff at Brythnoth were women, 75% of the Senior Management Team (SMT) - renamed the Senior Leadership Team in line with national policies - were male. The headteacher, Sylvia Clent, had been in post for five years. The gender balance at Kingbourn was similar, although during the study the headteacher, Jonathan Dexter, left for a national appointment and there was a period where the school was run jointly by a male and female deputy before Berwick Patterson was 'head-hunted'(sic) to take the position in 2000. Teaching staff at Kingbourn were organised into *departments* and *curriculum areas* which provided crucial reference groups and developed marked subcultures, an exploration of which forms the basis for chapter four.

¹⁹ This was subsequently remarked upon by Ofsted who required Kingbourn to change its option arrangements.

Forty-four percent of the staff (47 of the 105 total) at Brythnoth were, however, in support, rather than teaching roles, while at Kingbourn, adults who did not formally teach comprised a third of the total staff (56 out of 169). There are different terms used for such workers, including ancillary staff, or even ‘para-professionals’. In some schools the use of AOT (adults other than teachers) or NTA as at Kingbourn (‘non-teaching assistants’) very clearly ‘others’ support staff, of whom the majority (85% at Brythnoth and 81% at Kingbourn) is female (DfES, 2002; Greene *et al.*, 2002). Gendered power relationships thus intersected with hierarchies constructed through work roles and identities. While the project began by focusing on teachers’ workplaces, it became clear that ‘the staff’ constituted a broader range of people. Chapter eight focuses on the spatial expression of these gendered power relationships.

Appendix VII shows summary figures and Ofsted evaluations for both schools, illustrating some of the classification mechanisms which frame an official understanding of ‘the school’. During the fieldwork, information was also gathered on reporting and examination structures, behaviour policies and so on as a means of understanding how the pupils and teachers were technically incorporated into official discourses through standard assessment tests, public examinations, and reporting (Nespor 2002).

In 2000 both schools experienced a statutory Ofsted visit, where standardised inspection and reporting procedures were followed, presenting yet another view of ‘the school’.²⁰ These reports are publicly available, including on websites, and both were portrayed favourably in the respective local press, which also published league tables of public

²⁰ Because of the pressure on staff I did not go into the schools during the inspections, although it would have been interesting to observe the changing spatiality. For a discussion of the surveillance experienced by teachers see chapter four.

standardised examination results. A broader picture of the individual school, statistically compared to other similar schools, and for internal use, was available through the PANDA data sent by the Local Education Authority (LEA). This utilises socio-economic data on the catchment area, with proxies for social disadvantage such as the percentage of pupils taking free school meals.

The inspection of Brythnoth found that pupil attainment was below average on entry, with 25% having recognised special educational needs. The standards achieved in GCSE examinations were below the national average compared with similar schools, although a significant number of pupils were entered for other types of accreditation. At 'A' level the standards were judged above average. At Kingbourn a greater proportion of pupils were classified on entry as above 'average ability' than below it and performance in all examinations was well above national averages. The Ofsted report judged it to be '*an excellent school*'.

3.0 The spatiality of the school

The space-timetable

Schools are important vehicles for the study of spatiality as their activities are intensely structured by space-time. Space is particularly articulated through the timetable disposing bodies, classes, subjects, teachers and technologies. Nair describes schools as being '*frozen time, representing an educational system no longer relevant in today's information age*' (Nair, 2000, p.4). The rhythms of school pulse across the year as well as the day or hour. 'Academic years', divided by the long 'holiday', separate the movement of pupils and teachers to reconfigured groupings and spatialities. The fieldwork took place throughout the study period but was focused on the autumn and spring terms (2000/2001) at Brythnoth and the spring and summer terms 2001 at

Kingbourn. The common conflation of schooling and learning contributes to the notion that learning 'takes place' only within the confines of the segmented day which has secondary school pupils moving to a different room and subject at the bell or on the hour.

Timetables are fundamental to the particular spatialities of the school as a workplace. During the study, both schools were introducing Curriculum 2000 and the associated Key Skills in the sixth form. At Brythnoth I observed a series of meetings negotiating the location in the curriculum and existing department structure of the citizenship education required by the National Curriculum (Morgan, 2000a). Debates on whether this should be a discrete subject or a cross-curricular theme revolved almost as much around the practicalities of staffing as the importance of citizenship as a dimension of pupil learning and school development.

Heston Billings, the deputy principal at Brythnoth originally inherited a timetable built on periods of 20 minutes (in various configurations), *'which meant that breaks were at different times for everybody, and that the kids would be walking about all over the place quite legitimately at any time! It was absolutely a complete mess.'* He was however, opposed to the idea of a two-week timetable, as Kingbourn ran, believing that teachers would not be able to cope with it. Brythnoth had a study week when the timetable was suspended and activities such as work experience, fieldtrips etc. were undertaken, but at Kingbourn there was a termly 'block week' designed primarily to facilitate cross-curricular and cross-phase projects. These both created different kinds of spatialities for pupils and staff. From past experience, the possibilities for dialogue and consequent learning these afford for staff as well as pupils are very important. Nespor

(2000c) argues that fieldtrips are critical in pupils' framing of, and participation in (the performance of) public spaces, with which they might not otherwise be familiar.

The timetable was enormously significant for staff in terms of their teaching load and the spatiality of the classes, where and when they met (for what purpose) and the resulting behaviours. The loading was different across subjects, reflecting the amount of curriculum time-space which was given to core subjects. Hence teachers of English maths and science taught, on average, eight groups per week for several lessons each, while at Brythnoth teachers in drama, art, music and Religious Education (R.E.) took an average of 18 groups, many of which they saw for only one lesson a week.²¹ Staff cover for absences was a continuing problem at Brythnoth, with a 'league table' of cover periods officially posted in the staffroom. During certain periods there might be as many as 15% of the teachers absent due to illness, thereby increasing the stress expressed by a significant number.

With the greater proportion of GCSE and 'A' level teaching at Kingbourn, the pressure was not so great and while allocations of 'non-contact' time were broadly similar to Brythnoth, fewer cover periods were called upon. Additional time to meet during the school day was also provided for those in the school improvement groups that had been set up to encourage cross-curricular working and enquiry. The importance of designing such time-spaces had been a major school improvement strategy of the previous head, Jonathan Dexter, and was frequently cited as an important contribution to the way the school responded creatively to innovation.

²¹ The Religious Education teacher at Brythnoth was responsible for teaching 335 pupils per week and at the beginning of the fieldwork was also teaching a small GCSE group at lunchtime, as timetable space was not allotted to it because of financial/staffing restrictions.

3.1 Spatiality as the past in the present

Spatiality is the dynamic recursive interplay between the spatial and the social, influencing and influenced by the structure and culture of the school as a workplace. That it is not the static deterministic version of the egg crate was strongly illustrated in the case studies. Physical proximity did affect interactions, which will be explored in relation to departments in chapters five and six, but this was more than Cartesian distance. The larger site at Kingbourn was fairly similar in disposition and building age to Brythnoth and the staffrooms were equally pleasant and central, but other processes had helped to create very different socio-spatial practices. Combinations of small amounts of time and perceived large distances to cover at Brythnoth reinforced, and were expressions of, social and professional distance. They were not merely a metaphor. In this respect, at Brythnoth we may see physical space as reciprocal with social space, reflecting and feeding back to a lack of staff coherence and engagement with each other:

'There are some people not prepared to walk the extra mile for the school. It is almost impossible to say 'the staff', morale, anything.' (Martin Miller, senior teacher and community tutor) (McGregor 2000b, p.19).

Another senior teacher noted in relation to this school as a workplace: *'We are where we have been as well as where we are going'* (Barry Telford, senior teacher, Brythnoth). The apparent lack of coherence among staff was frequently related to the amalgamation of the two schools 15 years earlier. This was cited as a formative time leading to a continuing preoccupation with status, position and hierarchy at Brythnoth.

'In 1986 there was a move - people had to reapply for their jobs. They threw money at the school. People lost status, but not money. It was the cause of a lot of dissension. Smitham felt they had fewer posts. Some made a move by staying

still and some moved three or four miles down the road, which wasn't really a move. It helped shape unhelpful attitudes' (Martin Miller, senior teacher and community tutor) (McGregor, 2000b, p.17).

Thus, some teachers remained in the same classrooms but their roles and responsibilities changed, while others moved sites but retained or enhanced their responsibilities. The merger created a new power-geometry in which some felt disadvantaged in losing their roles, particularly where they then had to work in the department where they had previously been the Head. This set the pattern of working in some departments for some years. In the humanities faculty the divide was never breached and colleagues locked their resources away from each other.

While many new or younger staff had no personal knowledge of the schisms that had rent the school they were aware of the merger and the consequent staffing problems. Remnants of times when a significant proportion of teachers apparently felt little commitment to their work with the pupils remained literally inscribed into the buildings (*Figure 12*) where the cartoon staffroom clock permanently registered the end of school time.

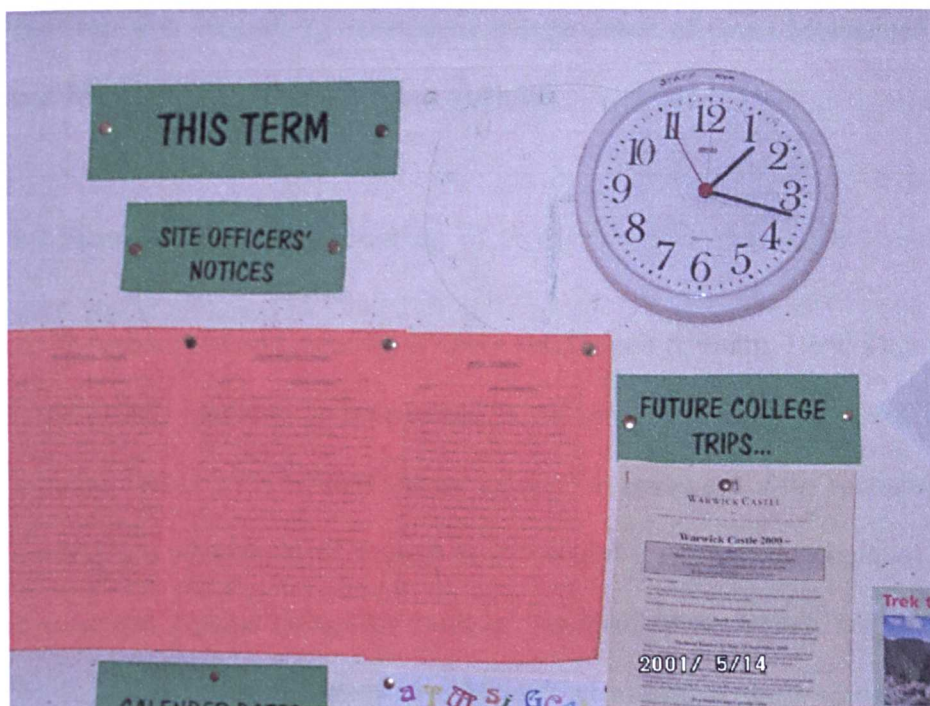


Figure 12
Staffroom
noticeboard
Brythnoth

On becoming head in 1995, Sylvia Clent inherited a budget deficit of £300,000, arising, in her view, partly from the LEA having '*thrown money*' at the staffing problems arising from the merger. Staffing was cut by 20% in her first year, substantially through redundancies, and reduced by 33% over the subsequent four years. *'When I came here it was a dire pit of despair. At the interview there were children abusing the candidates as they walked through a classroom'* (Sylvia Clent, headteacher). Funding limitations and tight financial constraints were acknowledged by the Ofsted report in 2000 and Sylvia Clent saw her financial responsibilities very much as '*damage limiting because I am not prepared to make class sizes of 40. We are already at the very very bottom of the county (for funding) and the county is at the very very bottom of the country*'. In contrast, as indicated by Appendix VII, the financial situation of Kingbourn was healthy, partly as a result of the funding accompanying Beacon and Training School status. An entrepreneurial policy of bidding for grants and applying 'flexible' staff

contracts was allowed by the relative independence of Grant Maintained status which had been enjoyed by the governors and head.

3.2 Spatiality as making meaning

As the production and meaning of space (McDowell & Sharp, 1999) I agree with Fisher (2002b) that spatiality is experienced at an almost subconscious level. In asking the question 'What is the school (and for whom)?' experiences of the spatiality of school as a workplace were explored through interview and image-based techniques as outlined in chapter two. Spatial metaphors (such as *'the heart of the school'* and *'the corridors of power'*) were quite commonly used by staff when talking about school as a workplace, paralleling their increasing use in education discourses (Edwards & Usher, 2000).

Staff who completed the grid of interactions were also asked to supply a metaphor for *'What it is like to work in this school?'* At Brythnoth the metaphors fell into three major categories around challenges, movement and different ways of working: *'players in an orchestra'* (F learning support teacher)²². *'Like working within separate, rarely intersecting and sometimes disjoint circles (sets)'* (F. maths teacher). While the work was sometimes cast as rewarding, the metaphors relating to movement such as *'running uphill'* (F learning support assistant - LSA) echoed the treadmill also evoked at Kingbourn, where effort did not necessarily result in progress. An analysis of the results by length of service suggested that newer staff were rather more positive though *'depending on the department'* (F learning support teacher) with the older teachers more likely to employ words like *'frustrating'* (F. P.E). and *'highs and lows'* (F. English).

²² As responses could be anonymous, the gender and stated department affiliation are given here.

At Kingbourn, the metaphors also focused around (differential) movement but were generally more positive. Some, such as '*a rollercoaster ride*' (M1. expressive arts) '*stepping on an escalator*' (M1. science) or '*boarding an express train*' (F1. science) suggested progress but with a lack of control. Pressure, apparently increasing over the year, was expressed in different ways: '*A juggler who has progressed from bean bags to cannon balls*' (M2. science) or '*carrying a rucksack that is filling with weight as the term goes on*' (F2. science) '*It used to be quart into a pint pot but now it's a gallon*' (F. humanities). '*well run factory*' (M2. expressive arts) was invoked, but the overall timbre of the comments from Kingbourn staff was very positive and best represented by '*Hectic, challenging and rewarding*' (F. expressive arts).

4.0 School space as discursive text

Schools are many things to many people, experienced and constructed quite differently by pupils, staff of various kinds, parents and visitors. I want to illustrate Nespor's conception of schools as points of entry into schooling by exploring Hetherington's notion that '*Spaces, like texts, (are) discursive*' (Hetherington, 1997a, p.200) and can be 'read'. Such readings reveal the effects of spaces in terms of signifying and classifying codes, power and agency (Foucault, 1977; Law, 1992).

If, as in the critical tradition, schools are not taken to be value-free, apolitical environments/entities but are seen to '*operate mainly to reproduce the discourses values and privileges of existing elites*' (McLaren, 1995, p.32), then the mechanisms for this operation need to be uncovered and challenged. The 'hidden curriculum' is one way in which power operates and school space is increasingly understood to be important in constructing and maintaining it (Margolis, 2001; Apple, 1993; Yang Costello, 2001;

Gordon *et al.* 2000a; School Works, 2001). People are not shaped only through social interaction but also the material world in which they live, so the physical setting such as the arrangement of rooms and the objects within them conveys subtle (and more overt) socialisation messages, of which most people are typically unaware (McDowell, 1999). The school building itself therefore represents a hidden form of curriculum (School Works, 2000). Kenn Fisher argues persuasively for the need for spatial literacy in order to see this; to explore how existing school shapes inhibit school reform through the agency of *'consciously imposed yet unconsciously experienced panoptic designs'* (Fisher, 2002a, p.6). Lankshear *et al.* argue that spaces such as the classroom intermesh with further enclosures such as the textbook or curriculum. These *'operate in concert to separate educational engagement from wider spheres of social practice'* Lankshear *et al.* 1996, p.155). In this section I employ images of the schools to illustrate this process as it was experienced by adults, and also aim to actively engage the reader with their own experience of schools and schooling.

4.1 On entering Kingbourn and Brythnoth

The entrance to a school is highly significant spatially (School Works 2000; Annesley *et al.*, 2002) in suggesting 'what the school is' or wishes to be seen as. This was acknowledged by Steven Kendall in relation to the Building for Excellence programme *'because you've still got to navigate your way into the school once you've approached that door.'* At Kingbourn, the foyer, particularly in previous years, conveyed a strong message:

'That it was very obviously a state school but it looked as though it had pretensions towards being a public or private school. I think it's changed now, but when you first walked in there were all these huge glass cabinets with

silver trophies and things and then those great big wooden boards which are still there with all the names, the roll call of the great and the good. ' (Duncan Patrick, head of drama).

In addition to these boards celebrating university entry and recipients of the Gold Duke of Edinburgh's Award, the entrance area was full of photographs of current pupils with a range of achievements, such as national success in 'A' level examinations (*Figures 13 & 14*). There were displays of pupils' work from different curriculum areas and also 'badges' of success such as government certificates indicating awards conferred on the school such as 'Beacon Status'.

In describing spaces, Hetherington goes beyond a description of 'simple space' where agency is with the actor (to move through) to a more complex level - where spaces are designed/evolved/designated so that one moves in particular ways, where *'agency is mediated by the space itself and the semiotics of its heterogeneous materiality'* (Hetherington, 1997a, p.201). In a museum, for instance, you are not simply entering the Euclidean space of a room but also the space of a signifying and classifying code - a narrative about time and place.



Figure 13
Foyer with
office to
right,
Kingbourn



Figure 14
Foyer at
Kingbourn

Markus (1993), operationalises this concept in utilising the ‘spatial syntax’ of Hillier and Hanson, plotting spaces by the number of steps and access points to produce a network plan, thus demonstrating social and spatial relations of exclusion and inclusion. Space is articulated to admit ‘visitors’ and interface them with the ‘inhabitants’ in a way that achieves both of their purposes. In most public buildings, visitors are controlled and

admitted only to shallow outer spaces, giving limited freedom of movement, while inhabitants are found in the depths.

The order imposed on bodies in such spaces has developed partly as a consequence of architectural/building design but also through practices sedimenting into routines. At Brythnoth, the foyer's spatiality usually separated people according to their status (pupil, community use, staff, visitor, parent, miscreant) and their consequent access to the main office and the head's office beyond. This was signified through the many doors with designatory signs (such as *'No entry to pupils'*) and the comparative difficulty involved in entering the offices. In the space of around 15 steps, the visitor moved from the entrance hall displaying the photographs of smiling teachers (hierarchically arranged) and favourable newspaper cuttings detailing school and pupil achievement (*Figure 15*) to the foyer dominated by large papier-mache student art works (*Figure 16*). They passed very public places of 'isolation' where students might be sitting (not) doing work (*Figure 17*).



Figure 15
Foyer, with
office to
right
Brythnoth

This latter is a surprisingly common arrangement in schools, where, as noted in chapter one, surveillance rewards a very different form of achievement. Visitors at Brythnoth had to pass through six doors to reach the head's room, including the 'gatekeeper' secretary's office, while teachers notionally only navigated three.



Figure 16
Inner foyer,
Brythnoth



Figure 17
Space under the
stairs outside the
'corridors of
power',
Brythnoth

The significance of spaces was not lost, however, on everyone and (interestingly) the head of humanities, Gregor Talmussen and an LEA Geography Inspector (who was the 'link inspector' for the school) were both keen to talk about their perceptions of the way space was used at the college.

'I have been there many times but still have a poor mental map of the school, it is difficult to visualise spatially. The SMT area of 'essential admin' 'the brains of the place', the 'heart/hub' of the school is not just in a peripheral location - but shielded, sheltered, guarded - as if decisions were made by a separate organism' (LEA Inspector).

The image of being separated from the rest of the school was emphasised by metaphors suggesting that the deputy head, Heston Billings, with his office upstairs was outside the protective enclosure and so at the mercy of hostile forces:

'They [SMT] are peripheral here. Keeps them out of the maelstrom. Heston Billings is upstairs, even further out of the kraal; Steven Royston [senior teacher] is in the tower, the lonely scout' (Gregor Talmussen, head of humanities).

'The only senior manager positioned 'the other side of the frontier' [in the main block] is Heston Billings, as 'the front guy' - who has to put into practice some of the policies acting as an intermediary. He is surrounded - has to keep his door locked as there is no one else around - he is away from the support staff' (LEA Inspector).

This is not then simply seeing space as fixed and undialectical, but as a social product, simultaneously the medium and outcome of social action and relationships which are materially-embedded.

4.2 Inclusion - into what?

Brythnoth has a high proportion of pupils on the register of ‘special needs’ (Appendix VII) with a numerically large and well-organised special needs department which contributes to a good reputation in the county for ‘inclusion’. For instance, traveller children at Brythnoth are well catered for by the school, unlike some others in the local area, where ‘dids’ suffer often overt racism. Like collaboration, inclusion is a term often endowed with a global virtue with little interrogation of its meaning and how it may be enacted. Drawing on some aspects of spatial theory, notably Sibley’s work (Sibley, 1995), Black-Hawkins (2002), suggests that ‘inclusion’ should actually be recast as overcoming barriers to participation in school cultures. The spatiality of ‘inclusion’ practices and their manifestation can thus throw additional light onto the question ‘What is the school?’ (and how is it differently constituted for and by individuals and groups?)²³.

At Brythnoth a specialist re-integration unit was housed in a mobile classroom at the time of the fieldwork (*Figures 18 & 19*), and appeared to me to be peripheral and difficult to find, although the teacher in charge felt very different:

‘The kids find it very easy to get to. For me the site is crucial - a perfect place - I can’t think of a better place. It is out of the mainstream concourse (apart from passing smokers) not in the normal to and fro of everyday life. It is just

²³ There is a small but developing literature on space and inclusion in schools (Black-Hawkins, 2002; Clark, 2000; Gallagher, 2001).

slightly physically remote but close enough if you need to get there. You don't have to trek across the field and only two classrooms overlook it. You can get there as a pupil with no-one seeing you coming – can't be stigmatised. They have to make a physical decision to leave mainstream to get to the mobile, so that is something symbolic. In my thinking it is part of the mainstream, not a special needs unit' (Richard Docwra, head of re-integration unit).



Figure 18
Re-integration
unit, Brythnoth



Figure 19
Inside re-
integration unit,
Brythnoth

A different view of spaces of inclusion was voiced by Alice Clayton, the head of the individual needs department at Kingbourn, in relation to their student support centre. This had (officially) been created *'to cater for those students for whom a short or even extended period of education outside the mainstream classroom will be of benefit'* (Kingbourn Leaflet). It was housed in two mobile classrooms at the side of the site. Photographs (Figures 20 & 21), however, illustrate the differences in the quality of the physical environment from the Brythnoth re-integration unit. Alice was completely opposed to the separate existence of the support centre and to the use of the term special needs:

'They shouldn't know that I am a SENCO [Special Educational Needs Co-ordinator] because the job should be a whole school approach. It should be working with the network that is the school, not something that is out there in the portakabin somewhere – the old-fashioned idea of a remedial room, it's nothing to do with that, it should be the whole school. And it should be totally inclusive. These students are part of everyday classrooms – they are in no way made to stand apart. Everybody can have a need, so if you have a bereavement it could be stress or worry, you might want some sort of support or whatever. You might have a crisis with your spelling – all sorts of things that are permanent or temporary. Everybody can need support, therefore it will have to be the whole school (Alice Clayton, head of individual needs).

She was very aware of the need for a space for the Learning Support Assistants (LSAs) to meet together (at the time they had a very small office in the English department) as well as being available for discussion with teachers at breaktime. Having asked for a place in the 'main school' that pupils could use as a resource base to work



Figure 20
Student
support centre,
Kingbourn



Figure 21
Interior of
student
support centre,
Kingbourn

independently or in small groups, she was outraged when the student support centre was created from the refurbished mobile classrooms:

'I had a vehement argument with senior management, saying that they were philosophically completely wrong. Because if it was going to be a learning base, kids would not go over there to learn cause they would look odd – to go

back to all that stuff about labelling. The space must be a space, but must be an intimate space. I wanted it to be just part of the English department so you pass it all day long and you never think about it as being a different place' (Alice Clayton, head of individual needs).

So from two not-dissimilar physical and organisational spaces there were very different views (between and within the schools) as to the nature of the spatialities created.

5.0 Spatiality as topologies: Beyond the boundaries of the school

Nespor (1977, 2000c) suggests that if *topographies* result from the mapping in Cartesian space of the distribution of bodies and artefacts and the movement of people, then *topologies* move beyond that fixed location. A topological approach to the school as a workplace for adults considers forms and locations of association, and the meanings these have for people, and also the way in which the workplace as an effect is constructed through complex interconnections across space and through time. Nespor argues that schooling cannot be fully understood simply on its own terms but by looking at how its practices are enmeshed within much more expansive and heterogeneous networks. School is thus conceptualised as an intersection in a lattice of practices which stretch beyond the conventionally understood boundaries in space-time. This approach also challenges orthodox understandings of pupils and teachers as '*partial beings, understandable in terms of their narrowly defined, school-inscribed attributes*' (Nespor, 2002, p.485). Instead it suggests the possibility of seeing them as network effects.

'Definite locations' such as schools are neither natural creations nor neutral forms with stable and clear boundaries. '*If some activities do seem contained and bounded within a*

school site it means that someone has succeeded in constructing 'the local' in a certain way' (ibid, p 485). The view of the school as a discrete entity is thus related to the common conception of 'the local' as a place with a stable and bounded identity. Places do not (have to) have boundaries which enclose homogeneity and divide them from somewhere else. Instead places can be seen as processes too. The specificity of place comes from the juxtaposition of wider and local social relations which have a particular effect. The uniqueness of a place is then:

'...constructed out of particular interactions and mutual articulation of social relations, social processes, experiences and understandings, in a situation of co-presence, but where a large proportion of those relations, experiences and understandings are actually constructed on a far wider scale than we happen to define for that moment as the place itself' (Massey, 1993, p.66).

A topological approach to the study of teacher workplace culture employs the new geographical conception of places as contested and shifting, constructed through complex interacting social relationships operating at a variety of levels and extending in space-time (McGregor, 2003d). However, this is not to deny the importance of the materially embedded practices and everyday relations which individuals experience as the school. The following section suggests the way the classroom or school is in very real ways, permeable to apparently 'external' influences.

In this study the workplace of teachers extended well beyond the physical limits of the institution or the temporal boundaries of the school day, as illustrated in the photographs of home (and cars) taken by the teacher volunteers (*Figures 22-25*). In both schools staff talked of the consuming nature of their work and the intensification created by continuing government initiatives and changing school developments and priorities.

'There are very high pressure and expectations at Kingbourn, it really is a career, something which pervades your entire life, especially in term time, there is not much else except school' (Beatrice Meredith, science teacher, Kingbourn).

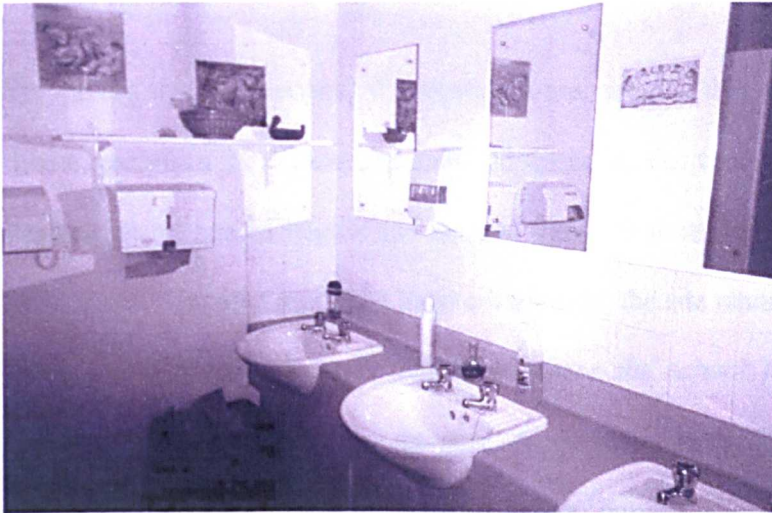


Figure 22
My workplaces
Karina
Leathwood,
head of R.E.
Kingbourn



Figure 23
My workplaces (2)
Karina Leathwood,
head of R.E.
Kingbourn

The boundaries between home and school were definitely permeable and largely in one direction. However, in contrast to the 'high tech' enterprises studied by Massey (1998), families did have some presence in school. At Kingbourn there was a nursery on site and the young children of some of the staff were occasionally brought over to the

staffroom for a walk. At Brythnoth sick children were brought in when child care arrangements collapsed. There were also several married couples on both staffs, with teachers having their own children enrolled in the school - all of these relationships creating their own pleasures and pains.

Employing this perspective, it becomes more obvious that 'the school' is a variably constituted place for different people and agencies. For the parents, students and adults working there, school begins and ends at different times and places. In discussing the relationship with the immediate local community, the site manager at Brythnoth noted;

'With the neighbours it is debatable where the school finishes. If kids are smoking it's one inch before the gate. To the parents it's all the way here and if you are clearing rubbish from people's garden it's one mile' (Stephen Calthorpe, site manager).



Figure 24
My workplaces
Gregor Talmussen,
head of humanities,
Brythnoth



Figure 25
My workplaces
(2), Gregor
Talmussen, head
of humanities,
Brythnoth

He and his colleagues also described the difficulties of protecting the open site from visitors such as golfers, dog walkers and vandals;

'There is a court case against us from damage to a car from a golf ball; plus the problem of smashed windows at £80 a throw. From this last weekend [holds up bag] we got over 20 golf balls. Messing the turf up, doesn't do the groundsman's machine, or his heart, any good' (Stephen Calthorpe).

Stephen had been a pupil and a teacher at the original school, where, as a young head of maths he had failed to get the new single post after the amalgamation, although he was left on a protected salary. Subsequently he was the first to take a redundancy package and then returned to the school as a site manager (*Figure 26*) with a unique perspective on the constitution of the school:

'Eight years teaching and I didn't know the cleaner and I didn't know why things were done. The staff round here couldn't give a monkeys about us, they expect the school to be open, warm and clean. If they want to stop on for an extra hour they don't see why not. What they don't realise the place is a hive of

activity with community lettings when they go home' (Stephen Calthorpe, site manager).

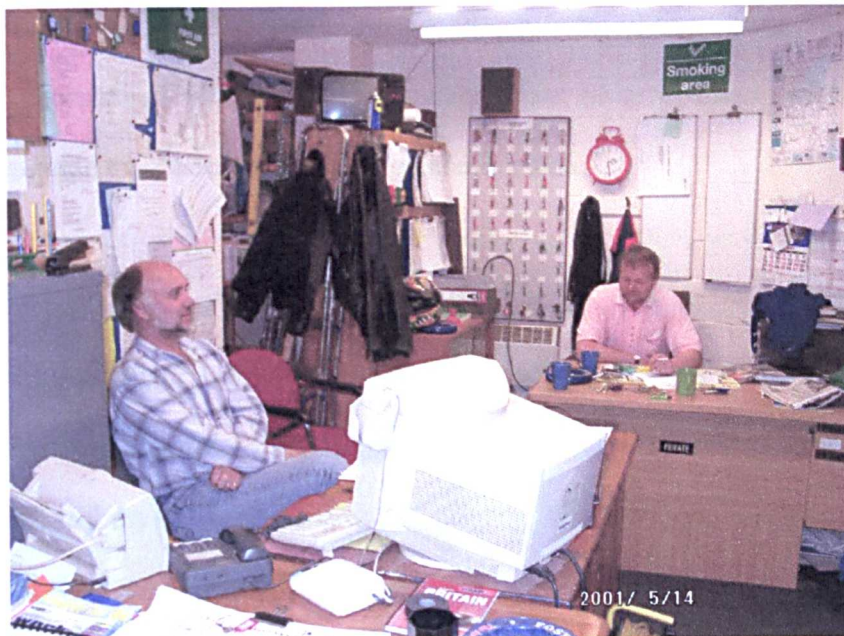


Figure 26
Site manager's
office,
Brythnoth

Like many local schools the cleaners employed were a mixture of local women and sixth form students.

Pupils and teachers obviously bring to school their prior education, experiences and identities, which are constructed partly in relation to the communities in which they live or identify with. The area around Brythnoth was experiencing growth with the development of nearby 'high-tech' industries and the building site on the aerial photograph is now an estate of faux town houses (*Figure 3*). Such development eventually changes the demographic balance of the pupil intake. As at Kingbourn, there were few students coming from ethnic minority backgrounds but the catchment area had pockets of significant social and economic deprivation, particularly in the rural villages and housing areas for conurbation overspill. As one indicator of disadvantage, while the

pupils taking free school-meals was similar to the national average, the nature of the casual, agriculturally based work ‘on the lump’ (i.e. paid in cash), meant that many more who were eligible did not actually take this up as parents did not wish to declare their income. The pupils at Kingbourn were drawn from 76 largely prosperous suburbanised villages or towns across four Shire counties, with 32% coming from outside the school’s traditional catchment area.²⁴

The majority of pupils at both Brythnoth and Kingbourn therefore took the bus to school. (Figure 27). For the Brythnoth pupils, the lack of public or private transport meant that times on the bus, at registration and break were intensely social and often made them late for lessons:



Figure 27
Car park five minutes before the bell, Kingbourn

‘Friends can be 15 miles apart - they finish a conversation and go off on separate buses. They need to be sociable and meet - to be accepted back into

²⁴ Although the admissions policy gives priority to pupils living closest to the school, the catchment area has been greatly extended by the exercise of parental choice to approximately 240 square kilometres.

the community that is school. But it is so fragmented. It would help the teachers to be part of that group. The teachers come from outside, there is hostility. You don't see this in [the city]. I am not sure how many teachers like the [area] and the children' (Richard Docwra, head of re-integration unit, Brythnoth).

Where the multiple and embedded contexts of school cultures are recognised in education literature they are commonly conceptualised as a 'nested hierarchy' with concentric layers, e.g. the department, school, local community and policy context (McLaughlin & Talbert, 1990). I suggest that this was the way many teachers saw the relationship between the school and local community. Most teachers at Brythnoth lived either in nearby towns or the more prosperous villages and few came from the poorer socio-economic groups. For them, particular pupils from the distinctive and isolated farming area or the housing overspill areas (literally) embodied values and outlooks with which they had little empathy²⁵. They saw these values 'bringing into the school' a powerful influence on the expectations of pupils and gendered relationships, for example, in the construction of particular masculinities. There was a consensus that older women teachers were often less respected, particularly by boys, because of this:

'And the [agricultural] families have to work colossal long hours at £35 a day they are earning. Once they get to any size they [the pupils] can be used to work or to look after kids so somebody else can work. And some of them who live on smallholdings and their fathers drive trucks. The boys are essential to be there because the mothers can't help hoick the stuff about in quite the same

²⁵ Nespor and Ward suggest that common discursive practices such as those constructing for example 'lower'/working-class (pupils) as dirty or disorganised (Pile 1996) act as an exclusionary 'mapping language(s), ways of attaching people to and from specific geographies' (Nespor & Ward, 2001, p.6) suggesting that they belong somewhere else (Sibley, 1995). *The spatio-temporal organisation of schools thus doesn't just produce docile bodies, it shapes some bodies as transgressive and undocile by linking them to distant identities and affiliations'* (Nespor & Ward, 2001, p.23).

way. If you go to Luton, where I worked 35 years ago, the women there can earn as much money as the men cause brawn isn't the issue. But they can't here and therefore if the bulk of the money is coming in with the men they have the bulk of the rights for spending it. And the boys are treated by the mothers as if they were household pets. The girls will have to do the work and the boys will be indulged because one day the boy will be bringing the money in and the mother will want it, and she knows what side her bread is buttered because she knows her luck'. (Sylvia Clent, headteacher, Brythnoth).

Expectations of students and parents at Brythnoth were generally perceived by teachers to be low:

'I find it very difficult to understand why the young girls see relationship, marriage and children as a career move. Not that there are opportunities, there is very little light industry, very little office work. Expectations are very low. I sometimes think that they don't want their kids to compete with them. I have had Mums say 'Of course you are not doing 'A' levels when CSEs [Certificate of Secondary Education] were enough for me'- Kids with grade 'A' GCSEs!' (Hilary Shaw, art teacher, Brythnoth)

This was in contrast to perceptions about the majority of pupils at Kingbourn, although this was not seen as unproblematic.

'These kids are from the affluent middle class, they are motivated and well-supported and there are few students with big behaviour problems, with that goes expectations of achievement. There is an arrogance in the sixth form 'You'd better deliver the goods'. If you are at Kingbourn you will do well by

osmosis, there can be complacency' (Alice Clayton, individual needs, Kingbourn).

If we see pupil and teacher cultures as enacted, they are then the dynamic creation of complex interconnected processes of social interaction. Such a space is the product of relations and interconnections from the very local to the global. Teachers in both schools commented on what they perceived as the insularity of the pupils. The rural children of Brythnoth were perceived to have narrow horizons, both in the places they visited and their aspirations. At Kingbourn, with its high proportion of 'middle class' pupils, Alice described what she saw as a lack of engagement with wider issues;

'I can mention two students who I think are aware of politics, two out of 250. There is no hunger to move forward to change things. They are just involved in charity events that are fashionable, do fashion. There is not a generosity of spirit that you might find in a more struggling environment. Here they all know their rights but they are not particularly well disposed to giving themselves to other people' (Alice Clayton, head of individual needs, Kingbourn).

As Nespor (2000c) demonstrates in his exploration of the topologies of masculinity, the pupils did obviously draw on wider influences. They mobilised aspects of popular culture, with its global reach, to construct the presentation of their gendered identities, e.g. relating to video games and television programmes. They were certainly quick in taking up new technologies where possible. Mobile phones were increasingly used for text messages (generating worries about bullying) and during the time I had been visiting Brythnoth, the local newspaper headlined '*Pupils in Internet Class War*'. Pupils thought to be from the prestigious public (independent) school in the city were '*trading insults*' on the city website with pupils thought to be from Brythnoth.

'This is the Rich Kids... I don't know what they teach you at [] but all I see is pupils doing a paper round. Can you people not do anything else? Sometimes I even see your Mums doing it' (Local newspaper front page report).

Both study schools called themselves Community Colleges and offered a wide range of activities such as evening classes outside 'school time'. Brythnoth however, had a significantly greater number and wider variety of groups and individuals in the building during the day, reflecting SMT commitment to community involvement and inclusion. Martin Miller, the community tutor at Brythnoth attended meetings with over 35 community groups during the first three months of the autumn term 2000.

'There are loads of things that go on here that are not to do with 11-18 education. They use the school and things happen in the community. The school is embedded in the community. Adults see that more, adults come in during the school time' (Richard Docwra, head of re-integration unit, Brythnoth).

6. Classrooms as workplaces

How teachers saw the classroom in the study schools

The construction of the classroom as a particular space was described in chapter one. In this section I describe how some teachers in the study schools experienced it as a workplace. On the grid of interactions, staff were explicitly asked to indicate the interactions that they most commonly had with different colleagues at various locations. The classroom comprised 4.6% of the totals reported (ranking tenth out of 17 possible 'locations'). Within this category, the types of interactions most frequently reported were: *Praise/celebrate achievement of others; Lend and borrow materials; Persuade*

others to try an idea; Observation with feedback (for which the classroom was ranked the fourth most important 'location' overall).



Figure 28
Humanities
classroom,
on open
evening,
Kingbourn

The classroom was clearly identified as a major place of work. For four of the nine teachers who took photographs this was the first 'place' they photographed (Figure 28). Six included images of 'my classroom/teaching space', sometimes with pupils in the picture taken (Figure 29). It was important to the teachers interviewed that they had 'their own' classrooms rather than having to move with teaching materials etc. Those who were peripatetic were often notionally lower in the department hierarchy, such as part-timers or students. In their mental mapping, teachers frequently showed classrooms as square boxes, emotionally identifying 'my room' as a positive place. Strikingly, two of the (Brythnoth) teachers described 'their' rooms as 'sterile' (Gregor Talmussen, head of humanities and Robert Rawlinson, head of science). Gregor Talmussen described the photograph of his history classroom (Figure 29): 'Gross overcrowding, a sterile environment, blackout and artificial lights - subterranean living (as shafts of light blind people and [the blinds] get left that way)'. Although ostensibly referring to the physical

environment shown in the photograph, this also seemed to reflect their feelings about teaching at the time.

Kingbourn and Brythnoth were typical of secondary schools where it is teachers who are allocated teaching rooms and who 'own' the classroom, while the students move around the school. Although there are commonly ongoing negotiations and resistances over the control of space, movement, noise and time in the classroom, Gordon and Lahelma found that they were seen by students as teachers' spaces: *'For teachers their classroom is more of a private space, for students it is more of a public space'* (Gordon & Lahelma, 1996, p.307). Thus are hierarchical and distancing relationships played out where the teacher is perceived to be the sole authority, transmitting knowledge and in control.

6.1 Use of the classroom

Schools and classrooms which trace their origin back to the late 19th century present universally recognised images across nations and cultures, however their familiarity and continuity presents them unproblematically as free from ideological contestation and struggle, somehow pre-existing and even immutable. *'Classroom reality is rarely presented as socially constructed, historically determined and mediated through institutionalised relationships of class, gender, race and power'* (McLaren, 1995, p.35). I suggest that a brief examination of the construction and operation of spatiality in the classroom provides a productive perspective on this.

The representation of 'the classroom', whether in policy or education discourses, or indeed graphical or televisual images, as an homogeneous and unproblematic container for teaching and learning ignores, amongst other things, the way in which pupils and

teachers interact within a power-geometry. Teachers, other adults such as LSAs, and pupils together produce the spatiality of secondary school classrooms through/as a constellation of materially-embedded, and often habitual, social and power relations. The designation of the room and time of 'the class', the arrangement of the furniture and the mobilisation of space by pupils and staff plus the curriculum and pedagogic strategies employed - all interact as social relations of power in which individuals are differently located. To extend the discussion on the construction of the classroom as a workplace we may explore the way classrooms of today are also regionalised through inherently spatial practices. These are often institutionalised means of control, crucially intertwined with teaching and learning practices and relationships.

Much of the work relating to space and the classroom has derived from research into gender inequalities, the construction of gender/sexualities and the playing out of gendered relations in schools (Coffey & Delamont, 2000; Paechter, 1996; Mac an Ghail, 1994; Murphy & Gipps, 1996). A spatial analysis of relations may be traced through research into classroom dynamics, where (some) boys have been shown in well-documented studies to dominate the processes of construction and use of space (Randall, 1987; Howe, 1997; Paechter 1998a; Askew & Ross, 1988). There is, however, an increasing interest in spatial arrangements in the classroom (Fisher, 2002; Gordon *et al.*, 2000; Nespor, 1997), exploring inequalities in spatial processes as well as outcomes (Gallagher, 2001; School Works, 2001; Jacklin, 2000; Iverson & Murphy, 2000).

Classrooms embody pedagogic ideologies and relationships resulting from different approaches to the control, or facilitation of activities. Teachers commonly place value on maintaining orderly relations, and the control of noise and movement in the classroom can be seen as a measure of teaching success as much as what pupils know or

have learned (Acker,1999). This was wryly commented upon by Gregor Talmussen in relation to the quiet history lesson he photographed (*Figure 29*): *'Everybody is working very hard which shows I am a good teacher'* (Gregor Talmussen, head of humanities, Brythnoth). Nespor describes how in his ethnographic study of an elementary school, *'teachers' frames of reference and the spaces of their practice extended to 'their' students' bodies'* (Nespor, 1997, p.123), even when outside the classroom.



Figure 29
Gregor
Talmussen's
classroom,
humanities,
Kingbourn

Also in a humanities department, Karina Leathwood, the head of R.E. at Kingbourn, used a horseshoe type layout. She described the photograph (*Figure 30*) she took of:

'My classroom. I suppose it's where I do all my teaching. I see it as my space. It is very different to Guy's space - he has loads of stuff on the wall. I think the classroom reflects you - I don't like clutter- I put things on the wall that are thought-provoking. There is an informal seating arrangement as I like to chat.'

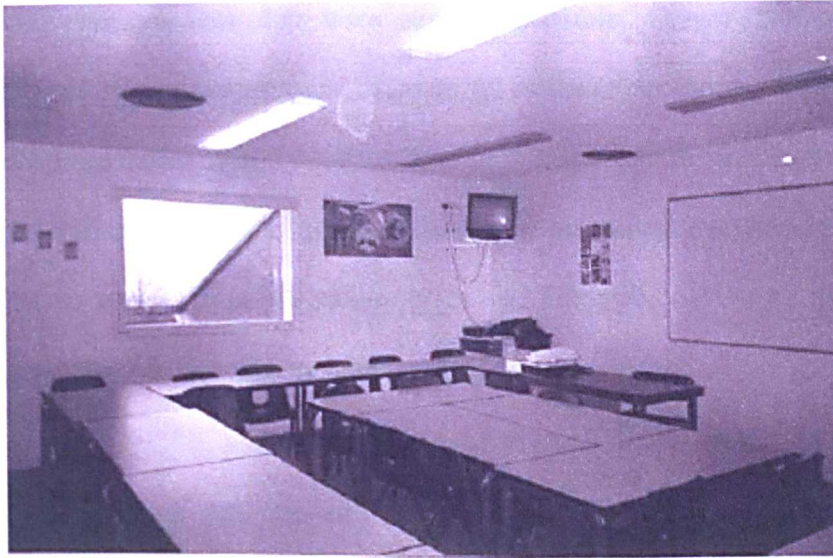


Figure 30
Karina
Leathwood's
R.E. classroom
Kingbourn

Linear arrangements, with pupils facing the teacher's desk and board at the front of the room were also commonly found in both schools, as in the maths department and an ICT room at Kingbourn that were workspaces photographed by Colin Duchesne (*Figure31*).



Figure 31
Colin Duchesne's
maths classroom,
Kingbourn

The location of computers in dedicated ICT rooms and the influence on working patterns is discussed in chapter seven. Lack of space for the increasing number or size of students was a problem in certain classrooms, particularly at Brythnoth, and could

limit the activities that were seen as possible. Gregor Talmussen talked of the difficulties of fitting groups of 34 to 37 in the room shown: *'they are in blocks, they cannot pull their chairs back'*. A teacher of English at Brythnoth, though having a much larger room, recalled an all male class who had entered the two year course as boys and left *'as men - physically much bigger and filling the room with their booming voices'* (Ryan Petrie, head of year, Brythnoth).

The classroom was also seen to have temporal boundaries. As well as competition between subject departments for the use of particular spaces, there was discernable conflict over the use of the classroom at times outside assigned teaching sessions. For example, one teacher at Kingbourn voiced the view that students should have to be outside (the building) at breaktime as he had when at school. Conversely, Brian Tuckman in the Kingbourn humanities curriculum area described how the pupils soon came to see a geography resources area/workspace as *'theirs...more flexible, not a closed box'*, encouraged by different forms of teaching through GNVQ. The need for social space for pupils was recognised at Kingbourn and following a *'Students as Researchers'* project to make the school more 'user friendly', social areas that were not teaching spaces were designated for all years.

The amount and quality of the displays on the walls of classrooms varied within the schools, although at Kingbourn there was greater emphasis placed on its importance, with a designated and paid member of staff responsible and guidelines from the art department aiming to encourage cross-curricular visual literacy. The relatively austere humanities and maths classrooms shown in the teachers' photographs echo the decoration of schools observed in Finland and Britain where the neutral colours of desks and walls, particularly in classrooms, indicated to the researchers that *'activities should*

be functional, purposeful and of the mind' (Gordon *et al.*, 2000a, p.141). They further suggest that 'the paraphernalia' of individual rooms, including posters and plants is important in creating an informal atmosphere, which is appreciated by pupils. In their study pupils preferred classrooms which were aesthetically pleasing, with plants, posters or large windows. While these pupils viewed ordinary classrooms as mere backdrops to teaching and learning, they expressed a preference for object-filled specialist rooms. Gordon and Lahelma suggest this provides a means to escape the classroom mentally, '*to another place*' (ibid, p.141).

The materiality of the classroom obviously interacts with, and can determine, the teaching and learning that occurs, particularly in the case of specialist rooms (e.g. gym, food technology, science labs). Hickman (2001) identified art rooms representative of different approaches to the use of visual resources. He recognised a '*continuing orthodoxy*' in the similar (clichéd), objects such as sheep's skulls, Swiss cheese plants and old wine bottles often found in such rooms. Such items might not be directly used but still contribute to a '*creative ethos*'. He suggests that this is the result of a desire to enhance the learning environment by creating a more relaxed ambience, perhaps different from the rest of the school. Thus creativity is facilitated through freedom of movement and exposure to (visually) interesting objects which may also serve as a resource for observational drawing.

Hickman suggests that art teachers show an awareness of needing '*to work in an environment not threatening, institutionalised or dull, but welcoming, personalised and intriguing*' (Hickman, 2001, p.13). A typology of rooms is related to a previous art teacher classification (*Table 1*). Perhaps to counteract charges of creative essentialism, he does point out that some art rooms could also be anomic and sterile. The best

classrooms are those which facilitate learning, in which case: *'there should be little difference between the ethos of the art room and the maths or humanities areas of the school'* (ibid, p.14).

Type of room	Teacher type (after Smith)	Pedagogic aim/belief
Efficient, well organised	Technocrat	Opportunity to explore & understand materials
Anarchic art studio	High priest	Facilitating individual expression
Home from home	Social worker	Classroom as therapy room, pupils feel nurtured
Anthropological museum	Pedagogue	Visually rich environment will facilitate perpetual development

Table 1 - Hickman (2001)

The art rooms at both Kingbourn and Brythnoth did not directly fit these categories, with an emphasis on the display of pupils' work as *well* as the provision of different

technologies including ICT. The head of art at Kingbourn was clear that spaces needed to be flexible for different kinds of teaching (*Figure 32*).

'I would say that we cover the extreme ranges of teaching from very formal academic teaching through to the old fashioned Italia system where it's basically one-to-one tutorials and encouraging total autonomy and self-management in the students, you know real high order stuff, I mean through to rote learning . . . I think that you should be able to have a hundred students in one room giving them a formal lecture through to spaces where you can do one-to-one talks with students. I think there should be always intimate space arrangements in classrooms as well as flexibility for open plan or lectures or whatever' (Lucy Capelli, head of art, Kingbourn).



Figure 32
Lucy Capelli's
art room
Kingbourn

6.2 The classroom as Big Empty Space

In both schools, the heads of drama understood and described the crucial importance of spatiality in their work with students. Perhaps unsurprisingly, here the understanding of space as performed reciprocally between the physical and the social, was most clearly articulated. At Kingbourn I interviewed Duncan Patrick in the large, black-curtained and wooden-floored drama studio (*Figure 33*).

'I think how (space) influences most is taken from Peter Brook's Big Empty Space because this really is an empty space. It isn't a theatre, it's not like some schools I go to where they have drama in the hall where there is a theatre at the end with lights and everything. It's always in waiting for possibilities is how I see it... and that there is nothing in this room, no pictures on the wall, there's nothing and it's a bit like giving the students a blank page to draw on. You know you wouldn't give students a page with lots of other drawings on and things, it would be, it's a blank white canvas. With music, you know, you start with silence and I think it's for me how I like to work'.

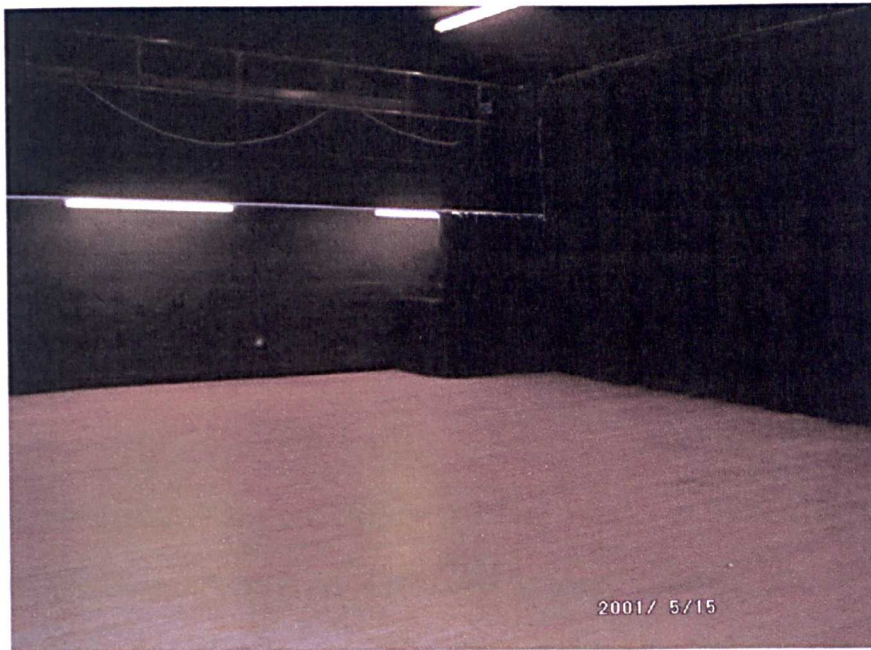


Figure 33
The big empty
space – drama -
Kingbourn

This was a space that could be constructed into theatre, creating meaning through movement, props, sound and interaction:

'... how to ultimately entertain and delight an audience from nothing, you know, there's no colour, so they have to bring in colour, they have to bring in costume, they have to bring in a sense of physicality which can swell the scene as it were. Because this is just the bare boards and it's about allowing imagination to start off in here.' (Duncan Patrick, head of drama).

He had resisted carpeting the studio, because of the effect on the opportunities presented by the space, whereby the carpet deadened sound (in precisely the way that many other teachers in more conventional classrooms find desirable). Perhaps the distinction to be made is between (deliberate) sound and (unplanned and unwanted) noise.

'It's less of an empty space. If you've got carpet, you can't make sounds on it [he illustrates] you can't drag things across it so easily, you can't slide across it, you can't ... it puts limitations but if we ever wanted a carpet we can bring it

in. But if there's a carpet already down you're limited to the sort of things that you can do' (Duncan Patrick, head of drama).

Here we may detect the resonances of the agency displayed by Latour's automatic closing door, which regulates entry to a room to those who have the strength to push it open (Macgregor-Wise, 1997).

The importance of the performativity of the space was central to the way Duncan Patrick worked with the pupils. On the one hand was the safety of exploring new worlds through rehearsing the set lines of a play, a created and ordered world, in contrast to making theatre from a particular stimulus (and considering how that differs from mere happenstance). This could also '*make it a scary place*' for pupils; '*they have to learn that there's no safety, they can't sit behind a desk*'. The sense of exploration and co-construction, rather than learning pre-existing and pre-given knowledge, was very strong. Teacher and pupils were then operating at the 'edge of their comfort zone', where learning is arguably most likely to take place (*See Chapter Five*).

'I have very little defences up when I see students now, very little. I think the subject allows for that because I am really honestly so often having to do the things myself that if I'm teaching you that two and two make four well I know that answer before I tell you and so I'm not learning anything at that moment, whereas if I say 'right, let's do some improvisation' and I say 'right I'm a doctor you're a whatever', I'm having to do some improvisation because I can't have learned it beforehand because they're going to give me stuff that I've never had before, so there is a real sense of vulnerability there and so students see you really working and not succeeding, often'.

'I start improvisation and suddenly they stop me; they give me something absolutely amazing and I think 'I don't know what to do there'. You know it's all about the unknown really. Of course I have skills which I translate to the students so they can use them as well, but the skills in drama, as in most art forms, are all about using them to then struggle with creating 'meaning' and that there is no answer to that. You know, sometimes you break all the rules and it's the most expressive thing' (Duncan Patrick, head of drama).

He described *'creating a sort of republic'* where he was normally *'in the thick of them'* rather than physically and hierarchically set apart:

'When we're rehearsing I'm having to wander round, there's no central place that I can go to and they can see that 'ah now he's doing this or that'. I don't have a desk, I don't have you know even an office really because I don't go in there very easily and because of that the relationship that you have with people is one that has been born out of ... we have developed this environment.'
(Duncan Patrick, head of drama).

One of the continuities in teaching is the location of the teacher, possibly at the front of the class, and their mobility in contrast to the pupils who are often seated. In controlling the (lack of) movement and subjecting the pupils to obvious surveillance, the teacher is using space as a strategy of power. Particularly in secondary schools, however, the contingency of facing different classes every hour or so can accentuate uncertainty (Rosenholz, 1989) and at times, insecurity on the part of teachers as to how a group may behave (what form of resistances may be offered to the teachers' mobilisation of space). Tensions in the classroom can then assume a spatial dimension, as described by a teacher in Gordon, Holland and Lahelma's study; *'You feel you're chased to sit behind*

the teachers' desk. Then you feel that you can't leave that place, that you (are) safe behind the desk' (Gordon et al., 2000a, p.19).

Duncan was very aware of the relationship between power, space and pedagogy in orthodox classrooms and eloquently described the sense of difference/otherness/alienation he experienced in such a situation:

'I am actually scared of sitting in a classroom. I feel very uncomfortable, I feel as if everyone's looking at me as though I'm going to be dragging them through some sort of learning process and they're just going to sit back on chairs and actually be quite idle. I feel the pressure of the whole status thing because I'm at the front of the room and they're over there as a clump. I feel the division of age, the division of everything. Whereas in here I don't feel that at all and I'm sure it's one of the things that keeps me feeling young actually is working with young people. Well not just working with them, well yes, working with them as opposed to standing in front of them. I'm sure I'd be a very different person now after fifteen years' teaching if I had to wear a suit and be constantly in front of a class being, I don't know being adult-like in the way that we're taught to be adult-like'. (Duncan Patrick, head of drama).

Awareness of the power relations inherent in the interaction with space was thus a fundamental dimension of Duncan's work with pupils.

7.0 Conclusion

In maintaining structures, architectural and organisational, that derive from 19th century elementary schools, classrooms and schools might be seen to produce the docile bodies

required for factory working, reproducing the relations evolving in wider society. The standard secondary classroom today has often a layout that maintains a particular spatiality where power relations operate to support didactic transmission approaches to teaching, with pupils passively receiving information which is controlled by the teacher in a way that Duncan Patrick found uncomfortable. Schools as *'hierarchical organisations where the flow of information is controlled, routines are standardised and significant emphasis is put on custodial care'* (Annesley *et al*; 2002, p.13) contrast with the world 'beyond' school, with which young people interact (increasingly through ICT), which is complex, layered and presenting constantly changing challenges.

Major empirical questions in relation to the classroom as a workplace for teachers lie in how power is exercised through key discourses and spatial practices (Massey *et al*; 1999) and what are the arrangements of time and space that produce particular effects? Education or schooling is not simply the uncomplicated transmission of knowledge, but involves a complex web of embodied relations of power which have remained remarkably stable over time and are instantiated in the space of the classroom. Although classroom practices were not investigated as part of this study *per se*, the contrasts between the physical spaces of the maths, humanities, art and drama rooms as shown in the images are quite strong and observation of the use of those spaces as in the ethnographic work of Nespor (1994), Gallagher (2001) and Jacklin (2000) would undoubtedly yield further interesting dimensions. The description that Duncan Patrick gives of the way space is integral to his teaching (it is worth noting that drama and theatre studies were regarded in the school as rigorous and academically demanding) illustrates the use of modalities of power such as negotiation and collaboration that are less common in conventional classrooms than they might be. Space was mobilised by Duncan to support the co-construction of learning, suggesting the use of associational

power 'with' rather than 'over'. Thus the spatial orderings of learning are far from incidental in what is learnt.

The conceptualisation of influences on the classroom, and the teaching and learning that takes place there, reproduce the dichotomy of opacity and invisibility that Soja (1989) suggested. On one hand, teacher education, curriculum directives and policies are generally concerned with largely uncontextualised social and discursive dimensions of pedagogy. Many policies are presented as generic, without even reference to the way they are mediated by subject subcultures, despite their influence (McGregor, 2002). Teacher practices relating to time, (physical) space and objects (resources) are also taken to be the preserve of school management and largely separated from the practices of pedagogy (Jacklin, 2001). In the same way, those notionally responsible for learning and for the construction and maintenance of buildings in government are separated with few links made between the built school environment and educational policy (School Works, 2001). This is arguably a result of conceptualising space as simply an inert container for social relations which renders habituated practices effectively invisible. A developing awareness of the mutual implication of space and power and the spatial orderings through which this is expressed is crucial in creating collaborative and democratic possibilities.

Chapter Four - Collaboration and teacher workplace cultures

1.0 Introduction

This chapter introduces the focus on patterns of association between colleagues, interrogating the concept of collaboration through an examination of the situated interactions reported and observed in the study schools. Conventional concepts of school culture are explored and critiqued using the lenses of space and place. The following chapters then extend this with respect to the existence of communities of practice, the department as a particular nexus of relations and the notion of such practice-relevant configurations as actor-networks. Different aspects of spatiality are thus drawn upon to explore and extend the ways of understanding the school as a workplace. Spatiality is enacted and constituted through the social, thus the form and content of interactions represent a nexus of dynamic (power) relations which are demonstrably located in, or rather as, particular places and times.

The influence of social relations with colleagues on teacher practice is increasingly considered in educational literature, evidenced through separate studies of organisational structures such as teams, school cultures, teacher subcultures and professional learning communities. These perspectives on forms of association in schools, and their reciprocal impact on teacher learning and development (and potentially pupil experience), have contributed to research which consistently emphasises the educational benefits of working collectively (Little, 2002).

Collaboration and collegiality have been variously described as the zeitgeist of educational management theory, the new orthodoxy of educational change and the key

to school improvement. They are invoked for different purposes in policy documents, pronouncements of government and the professional associations of teachers and imbued with a global and reifying virtue. Within education writing collaboration and collegiality have, for the last fifteen years, been valorised and characterised as an official model of good practice (Campbell, 1989; Campbell & Southworth, 1992; Jackson, 2002; Sammons *et al.*, 1995; Stoll, 1999). There is a correspondingly evolving view in education on the critical influence of *context*. As interpretive strategies however, these perspectives substantially ignore the role of space and place. I argue that current conceptions of space and place trouble such monolithic conceptions and can articulate the concept of context more radically.

The focus on spatiality and the workplace arose simply from a concern to investigate collaboration in its different forms: to explore where, when and with whom staff were working in different ways. Early investigations highlighted the range of interactions that teachers characterised as collaboration. While joint work was viewed positively in the study schools, actual descriptions of the *practice* varied widely from what could be described as social staffroom interchange to powerful mutual engagement around issues of practice (McGregor, 2000a, 2000c). My previous study sought to build on dimensions of teacher interaction in secondary schools identified by Little (1982). The parameters she identified as important in teacher relations were location, frequency, range, focus, relevance, reciprocity and inclusivity of interaction. Initial 'mapping' of interactions indicated the fruitfulness of exploring the location of association and the meaning that was made of that. This led to an engagement with theoretical aspects of space through the PhD research process, which now inform evolving conceptions of what collaboration may mean in practice. An initial question of the thesis was 'What are the common patterns and contexts of interaction in the workplace?' Engagement with

the theoretical underpinnings in geography however, suggested this should be reframed as ‘What are the common patterns and spatialities of association?’ Further work on situated (workplace) learning emphasised the critical differences between forms of collaborative work and the spatiality they exhibited, and this is extended in focusing on different groupings in chapters five and six. Exploring the notion of collaboration, and association, as lateral modalities of power more likely to occur in some spaces than others, suggested links with leadership as a process operating throughout the school.

The interests of this thesis are firmly located in the current work in education around the conjunction of collaboration, learning and leadership, evidenced by a mushrooming of leadership centres and programmes (Bennett & Anderson, 2003; Earley *et al.*, 2002). This is informed by a strong body of research on learning which is, ironically, only beginning to be widely applied to teachers’ practice. Metaphors of acquisition or building knowledge are being replaced by those of participation, where knowledge resides in practice rather than being something to be passed on (Desforges, 2000). Learning as situated cognition is thus located in the same way that power as a constellation of relations can be observed, through the playing out of leadership as influence rather than a function of position. Following the presentation of findings on the location of adult interaction in the study, the frames of teacher cultures are examined for their analytic power in relation to the developing conceptions of spatiality. The relationship between collaboration, leadership and learning are outlined, suggesting that the conjunction of these processes creates a spatiality likely to support professional community and creative response to change.

Practical and theoretical orientations are aligned though the Networked Learning Communities programme which the work of this thesis has (reciprocally) informed in a

small way. With currently 85 networks and over 1000 schools committed to working collaboratively to improve learning opportunities, the question of locating generative and sustainable forms of interaction becomes an urgent one. The programme actively uses spatial terms to describe learning environments and seeks to locate '*scattered opportunities for creative learning in our schools. Where are they? What are they? How do we know?*' (Bentley, 2002, p.6). As previously noted, the need to identify adult learning spaces for joint work and engagement in dialogue is increasingly acknowledged elsewhere using explicitly spatial language (Lieberman, 2002; Clarke *et al.*, 2002; Fielding, *in press*; Paulston, 1996). This chapter uses empirical findings to suggest where we might look for some of these different spaces which are ongoing dynamic knots in the web of relations that creates the school. This goes some way to separate the metaphorical and practical use of the term learning spaces and further indicates where more in-depth studies might be focused to identify 'the footprints of practice'²⁶ where learning from collaboration may be transferred beyond the generating location.

2.0 The school as a workplace

Current mainstream interpretations of schools as entities are substantially organisational, cultural or micropolitical. These approaches are frequently juxtaposed in binaries to foreground perceived dichotomies between structural and cultural factors or consensus and conflict (Bush, 1995; Harris & Bennett, 2001; Reay, 1998; Wallace & Hall, 1997). While these frames proved initially useful for exploring the location and meaning of collaboration, spatiality, where space is performed as social relations of power, articulates the concepts more usefully. A spatial perspective disrupts

²⁶ Judith Warren Little. Comments in feedback to Networked Learning Group NCSL, June 2003.

dichotomies by paying particular attention to the day-to-day social production, reproduction and meaning of space and the open-ended possibilities this highlights. It also examines and questions the existence of boundaries of school communities which have been notoriously difficult to delineate (Griffiths, 2000).

Where place is understood as a product and producer of relations, rather than simply a bounded region, we may conceptualise it as a particular articulation of social networks and understandings. Workplace interactions are thus social relations which may be explored through complex but patterned relationships and forms of association 'on the ground', as well as the cultural values, including ideas about community which contribute to them (Strathern, 1999). The staffroom, classroom and faculty office are all locations for aspects of teachers' work and association; likewise the fieldtrip, department meeting, or more informal occasions such as driving to school with colleagues (Kainan, 1994; McGregor, 2000a; Siskin, 1994). These are all workplaces, but comprised of different practices, to different effects.

Space in schools is perhaps most powerfully articulated through time as manifested by the timetable. This locates and classifies students (often by age and 'ability'), teachers (generally by subject specialism in secondary schools) and 'curriculum areas' of knowledge. It is partly this compartmentalisation that leads schools to be characterised as 'loosely coupled systems' (Weik, 1988; Jackson, 2000) made up of bounded, functionally specific spaces which are seen as internally relatively homogeneous. While areas such as the staffroom were studied as 'functionally specific spaces', the main focus of the work was on patterns of association, initially among teachers and then the whole staff, substantially away from the classroom.

The work of teachers has for some time been a focus of government initiatives to raise standards of achievement and promote social inclusion. Policy decisions focus on the classroom, but often ignore the importance of the school as a workplace for adults (Acker, 1999). An initial premise of this thesis was that what goes on *outside* the classroom may be as important for school development and learning as what goes on within it (Louis & Kruse, 1995; McLaughlin, 1993). As Hargreaves notes: *'[Colleagues] are among the most educationally significant aspects of teachers' lives and work. They provide a vital context for teacher development. What goes on inside the teachers' classroom cannot be divorced from the relations that are forged outside it'* (Hargreaves, 1992b, p.217). While the lens of spatiality dissolves such distinctions as inside and outside, it maintains a focus on relationships and association.

Although it was not links to pupil experience/achievement that were being directly investigated, the premise was that certain modes of association are more likely to support useful change and perhaps school transformation. The school as a workplace is an important site for the negotiation and construction of identities, and hence self esteem and feelings of efficacy (Little, 1995; Nias, 1985). These have been shown to have a reciprocal impact on teaching and learning, of both staff and pupils (Ashton & Webb, 1986; Louis, 1998, Rosenholz, 1989; Timperley & Robinson, 1999).

A considerable amount of research over the last 25 years points consistently to the potential benefits of collaboration and collegiality, where teachers work collectively to review and develop their practice within a supportive framework of relationships which allows the acknowledgement of difference (Gutierrez, 1998; Little, 1982; McLaughlin, 1993, 2001; Hargreaves, 1997a). Hargreaves (1994) and Huberman (1990), however, warn that mandated collaboration or the imposition of 'contrived collegiality' can

mitigate against the development and maintenance of supportive relationships, as described in studies of teachers' professional communities (Little, 2002; Louis & Marks, 1996; McLaughlin & Talbert, 2001). Interactions with colleagues thus create possibilities for, or constraints on, learning and improving practice. This was the practical thrust of seeking to locate and differentiate the space-times in which these occurred.

A major study of secondary school teachers' work in the early 1990s found that in an average 54-hour working week during the term, only about 40% of teachers' working time was spent in direct contact with pupils, with a further 27% spent working at home (Campbell & Neill, 1994). A decade later, phase one of a survey of teachers in England and Wales found that while the average working time for classroom teachers had increased only slightly, an average of 44% was now spent teaching or in contact with pupils, for example at break (PriceWaterhouse-Coopers, 2001). What teachers do in that time in the classroom is likely to be powerfully affected by their colleagues through the learning that emerges from/as patterns of association, whether encouraging of mutuality or individualism. Indeed these relations are likely to be expressed through lateral modalities of power (as influence) such as negotiation and collaboration.

2.1 How teachers described their workplaces

Given the interest in collaboration and collegiality in teachers' professional communities, Avila de Lima expresses surprise at *'how little we still know about the relational side of teacher cultures'* (Avila de Lima, 2001, p.1). He suggests that studies of teacher cultures have focused on knowledge, values and beliefs held, rather than the patterning of the networks of ties that are developed, and calls for new methodological

approaches. He further recommends that ethnographic, interpretive approaches to the study of collaborative cultures to be complimented by more '*structural approaches that illuminate how the many teacher interactions that make up educational life come together and articulate themselves in multiple and complex forms*' (Avila de Lima, 2001, p 2). In exploring how teachers described their workplaces, how they made meaning of them in the two study schools, a variety of qualitative and quantitative methods were used in this study, as described in chapter two.

The workplace in school was initially identified by teachers as 'their' classroom and then the department office. The nine teachers who recorded their workplace on film took pictures of their classrooms (described as '*my comfort zone*' by Trevor Denman, an art teacher, the darkroom being the favourite place of another), department offices and their desk space in that office (*Appendix VI*). Interestingly, the English office at Kingbourn and the humanities office at Brythnoth were both nicknamed 'the goldfish bowl' because of their corner locations and large areas of glass, enabling students to have a clear view inside. The importance of the department offices for communication was recognised and evidenced through mental maps. As the head of department noted of the expressive arts office and resource area: '*A lot happens in passing in this room. In fact a tremendous amount is informally discussed/overheard/ questioned/answered and so on*' (Ceri Peters, Kingbourn). Such common views suggested the importance of focusing on the department as an intersection of relationships performing a particular spatiality, which was confirmed by the grid survey of interactions.

The importance of the staffroom in perpetuating dominant discourses and facilitating or obstructing different forms of social and professional interaction has begun to be documented (Kainan, 1994; O'Boyle, 2001; McGregor, 2000b; Paechter, 1998b). This

follows earlier ethnographic studies of teacher interaction (Ball, 1987; Hammersley, 1984a; Nias *et al.*, 1989), all of which focus on the main staffroom. Ben Peretz *et al.*, (1999) suggested a reciprocal link between the quality of teacher relations and the strength of 'local teacher community' to student learning, whereby staff in 'high achievement' schools were more aware of the potential influence of what goes on in the staffroom. This was certainly the case at Kingbourn where the area had been deliberately remodelled to facilitate greater use and symbolise the value placed on professional interchange.

'The staffroom is where people meet in the morning, it's heavily populated at breaks and lunchtimes and after school. It is a meeting place in itself and I think that helps to maintain the ethos, the collectivity of the staff. Until recently as a space it wasn't a very good work area for staff but it is a symbolic space, it has greater meaning than just an area where you can work and mark. And I suppose that's the same in departmental areas' (Christopher Jordan, acting head, Kingbourn).

Teachers at Brythnoth and Kingbourn identified the staffroom as a major location for interactions and the grids filled in by teachers showed it was the most important place for talk about social/personal life (*Figure 34*).

Figure 34 Locating Interactions

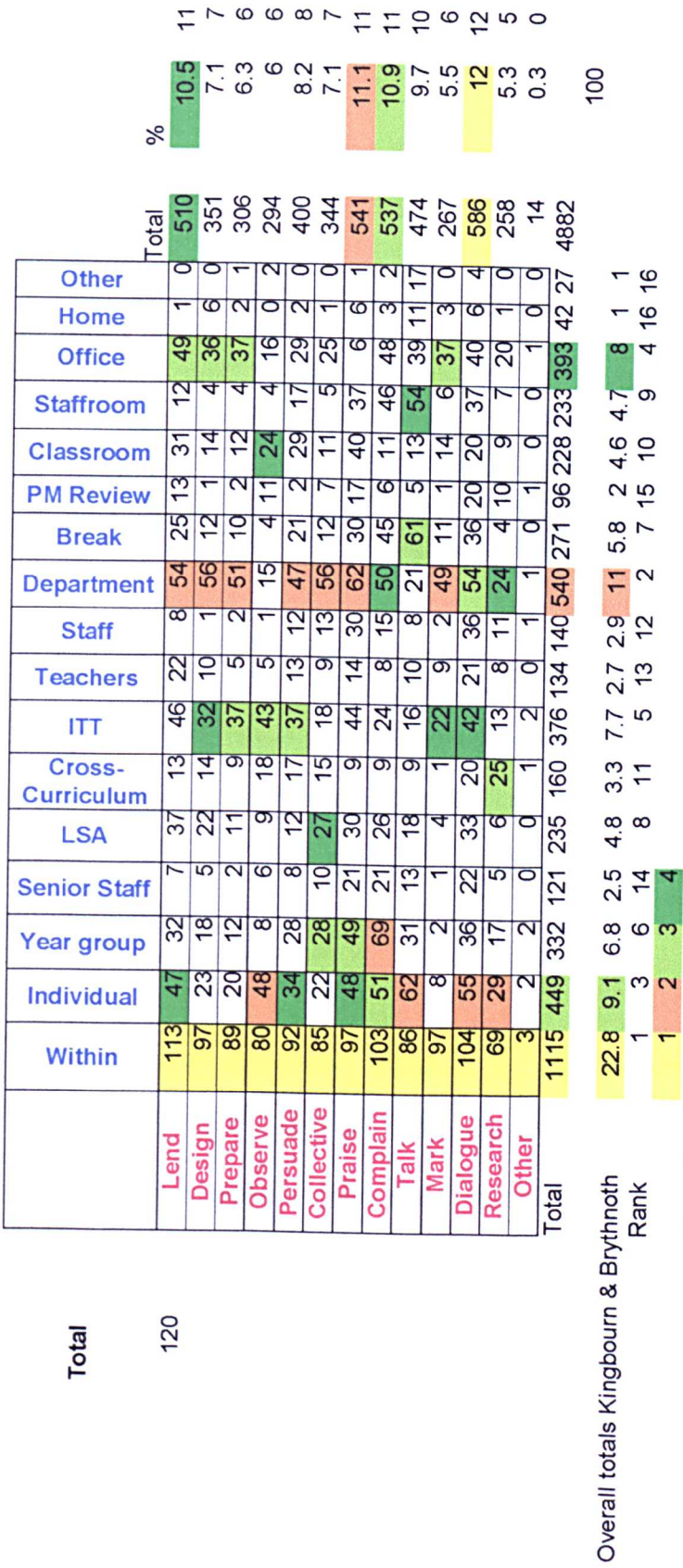


Figure Locating interactions

Table of total responses to grid instrument.

Numbers and % of the total are given together with the ranking of location. The yellow colour indicates the location of the highest reported interactions, orange the second most frequent etc

At Kingbourn the majority of the staff came over at break time as well as for briefing meetings which had been encouraged by Jonathan Dexter, the previous head. Ceri Peters noted of the staff kitchen (Figure 35):



Figure 35
The staff
kitchen,
Kingbourn

*'Here you tend to come across **any** member of staff and the conversations tend to be either a common 'moan' about a topic of general concern (too many meetings, the new chewing gum rule etc.) or a joke. Only 25% of the exchanges would (I think) be related to professional issues - student progress, department plans and so on' (Head of expressive arts, Kingbourn).*

At Kingbourn, clear locales were identified by staff and could be observed in the staffroom at break where department staff commonly sat together (*Appendix VIII*). The area occupied by the expressive arts faculty was referred to by them as *'the shallow end of the pool'* (Gussie Menks, expressive arts teacher, Kingbourn)! A group of female humanities teachers, long-standing members of staff who were close friends, were identified benevolently as *'the Dorothies'*. At Brythnoth however, the main staffroom

was rarely used, beyond weekly briefings and whole staff meetings. Although having coffee and biscuits on sale at break had encouraged greater numbers (around a quarter of the staff) to gather, the room was rarely used during the lunch hour or at other times.²⁷

While the study began with a focus on the teachers' workplace, researching the spatiality of the school required inclusion of support staff. Kingbourn employed a large number of 'Non-Teaching Assistants' (NTAs) who worked in a variety of ways throughout the school and who had a weekly briefing meeting. Teachers' representations of workplaces frequently showed support staff and areas such as 'the office', library and resources areas and reprographics room (*Figures 36 & 37*).



Figure 36
Mental map
Jane Casey,
geography
teacher
Kingbourn

²⁷ It is interesting to observe that break at Brythnoth accounted for 9% of reported interactions overall in contrast to Kingbourn 5%. This did not reflect observations and may be a result of the sample completing the grid, which was more selective at Brythnoth.

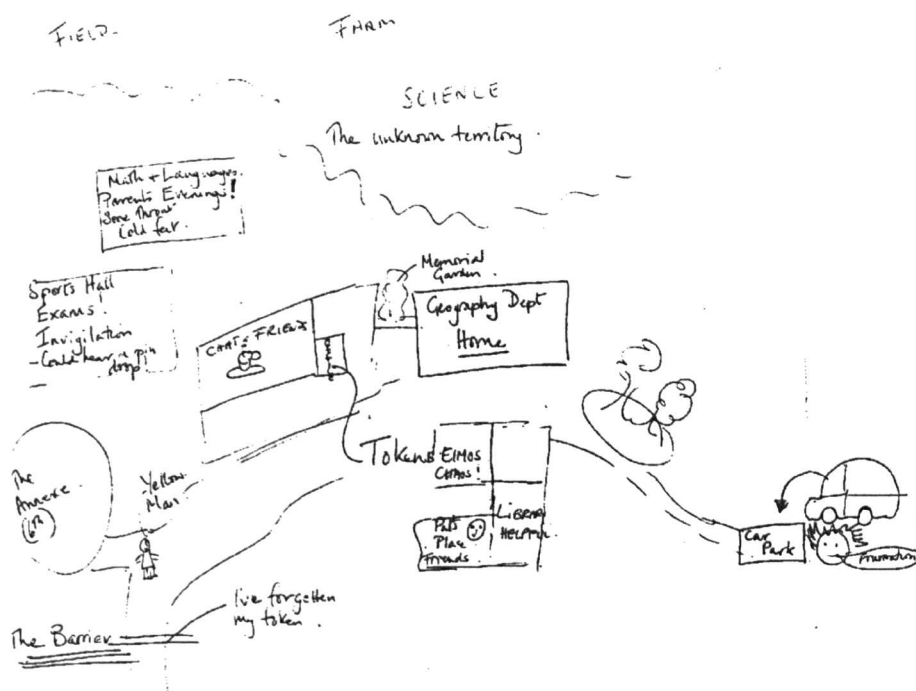


Figure 37
Mental Map
Sheila James
geography teacher,
Kingbourn

The latter was mentioned by several staff at Kingbourn as a major ‘hub’ and represented in Jane Casey’s mental map by a heart surrounding the machines and on Sheila James’ drawing by a smiley face. In both schools attention was drawn to the importance of prep rooms for science and interactions with the technicians. At Kingbourn they were very much part of the ‘collaborative culture’ of the department (Busher & Blease, 2000). The strongly gendered division of labour and the spatial outcomes of this are discussed in chapter eight.

3.0 Mapping interactions

A significant element in this study was the attempt to map staff perceptions of their interactions, developing the work of Little (1992) in exploring the relational side of teacher cultures. Through a focused ethnography she identified norms of interaction and interpretation characterising the school as a workplace and developed an inventory of characteristic teacher interactions. Her research suggested that:

'In successful schools more than in unsuccessful ones, teachers valued and participated in norms of collegiality and continuous improvement (experimentation); they pursued a greater range of professional interactions with fellow teachers including talk about instruction, structured observation, and shared planning or preparation. They did so with greater frequency, with a greater number and diversity of persons and locations, and with a more concrete and precise shared language. Findings suggest critical organisational variables that lend themselves to quantitative study' (Little, 1982, p.325).

Little noted that each of the characteristic interactions could be specified further by the probable actors, the social location and the task in hand. I developed the grid instrument to meet this challenge (*Appendix IV*) in my previous study. This was modified during the first year of the PhD and staff in both the study schools (n=120) filled it in on a self-reporting basis to indicate where, when and with whom they felt they most commonly interacted.

3.1 Patterns of interaction

The aggregated total responses for both schools demonstrated a clear pattern where the dominance of ‘the department’ was strongly represented. Frequency is here a clue to the relative importance attached to the interaction and the likelihood that it is an embedded and habitual practice. As the grid summary shows in detail (*Figure 34*) and the graph (*Figure 38*) illustrates, individuals within the department were cited as people with whom respondents had both the greatest number and widest range of interactions, providing a total of 22.8% of all responses²⁸. Table 2 illustrates the importance attached to the department meeting and office which, taken together with departmental colleagues over the two schools, provided 41.8% of the total reported interactions. This suggested the need for more focused study on the people, times and places that construct the department, which is explored in chapters five and six.

If we look at what people more obviously associate with place, i.e. a physical bounded location, then the department office was more important than the main staffroom in both schools, although what was characterised as social talk was more likely to happen in the latter. At Kingbourn the department office was the most important place for all interactions except observation, persuasion and social talk. At Brythnoth the pattern was similar, with observations and praise reported more frequently in the classroom and social talk in the staffroom. Not surprisingly, meeting at home with colleagues was only significant for a few individuals. The emphasis on the department office as a place for interchange with colleagues was reflected in the images of their workplace provided by teachers, and through interview and observation. The classroom and main staffroom

²⁸ For separate summaries of the school totals see Appendices IX and X, graphically represented in Appendices XI and XII.

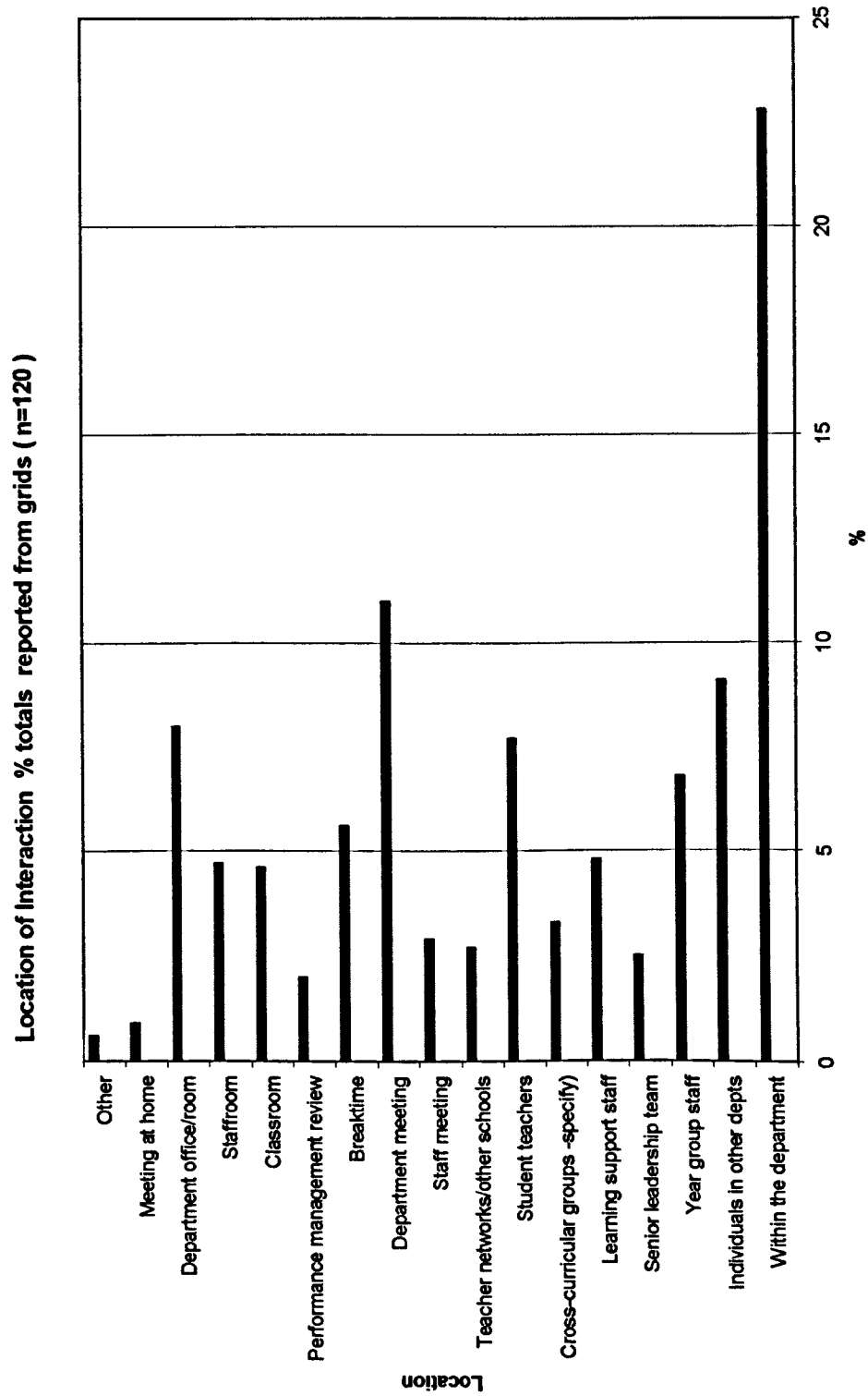
scored similarly across and within both schools, although observation revealed quite different patterns of use of the main staffroom.

Kingbourn				Brythnoth		
Rank	Location	N=	%	Rank	N=	%
1	Individuals within the department	906	22	1	209	26.4
2	Department meeting	451	11	2	89	11.2
3	Individuals in other departments	394	9.7	6	55	6.9
4	Student teachers/trainees	363	8.7			
5	Department office	332	7.9	5	61	7.7
6	Year group staff	261	6.4	3	71	8.9
7	Break	201	4.9	4	70	8.8
8	Learning support assistants	193	4.7	7	42	5.3

Table 2 Location of Interaction

Shaped by the timetable and conventional cellular structure of classrooms, there are relatively limited times during the school day that staff may be in each other's company. Hence the importance of breaktime where social talk was highlighted in the staffroom. The department meeting was the time-space where the range and frequency of interactions was reported to be highest with 11% of all interactions in both schools (*Figure 38*).

Figure 38 Location of Interaction



Department meetings provided the highest frequency of interactions for each category in terms of 'times' with the exception of observation and social talk. Such meetings were generally held in subject classrooms 'after school', or during the day in the summer term when some pupils were on study leave. In contrast, (whole) staff meetings were experienced relatively passively, although less so at Kingbourn where a more interactive element had been introduced as a matter of policy, following research into how meetings were experienced by staff.

Relationships with individuals were dominated by department affiliation, although members of the year (pastoral) group were highlighted for the particularly affective and possibly instrumental, exchanges of complaining about, or praising pupils. This was more apparent at Brythnoth. Influenced largely by the Training School status of Kingbourn, professional interchanges with Initial Teacher Training (ITT) students were indicated to be three times greater than that with senior staff. Performance management reviews also scored low, disturbingly on collective agreements to test an idea (where work with LSAs was indicated to be significant).

Thus the grid instrument revealed a pattern of situated interactions with individuals and groups located in particular space-times. The type of interaction and its potential influence for 'learning on the job is fundamental in exploring the potential for 'adult learning spaces'. A further move is to identify the interrelationships which *create* that space-time. I argue that it is in such spaces that collaboration may best contribute to improving practice and develop the capacity for transformation and more democratic relationships in schools.

3.2 Types of interaction

The same four categories of interaction were reported most frequently in both schools, although there were differences in ranking (*Table 3*) and location. Talking about teaching and pupils accounted for around a third of all of the responses.

Rank & % overall total	Rank & % of total at Kingbourn		Rank & % of total at Brythnoth
1 12%	1 12%	DIALOGUE AROUND TEACHING & LEARNING	4 12%
2 11.1%	2 11%	PRAISE/CELEBRATE THE ACHIEVEMENTS OF OTHERS	3 12%
3 10.9%	3 10%	COMPLAIN ABOUT STUDENTS/CLASSES	1 15%
4 10.5%	4 10%	LEND & BORROW MATERIALS TOGETHER	2 13%

Table 3 Highest % interactions reported

Little's research distinguished schools by the interactions that were encouraged or discouraged; notably the support provided for the discussion of pedagogy and the opportunity for mutual observation and shared participation in improving practice. She found that certain classes of interaction were most likely to support collaborative and collegial working that would enhance capacity to deal with innovation and socialise new members into new ways of working for the benefit of pupils. Four main classes of what she termed 'critical practices of adaptability' were identified where teachers:

- Talked about pedagogic practice, as distinct from social talk or stories
- Observed each other with feedback, providing shared frames of reference
- Planned, designed, researched and evaluated teaching materials

- Taught each other about teaching.

In later work, Little made a distinction between strong and weak forms of teacher interaction. She identified four ideal types of collegial relations, the first three of which she viewed as weak forms: ‘*scanning and storytelling*’, ‘*help and assistance*’ and ‘*sharing*.’ The strong form of interaction was termed ‘*joint work*’, and included mentoring, observation with feedback and action research (Little, 1990b, p.512). Such interactions involved greater interdependence and collective commitment among teachers. She concluded that these interactions were likely to have quite different effects:

‘Patterns of interaction that support mutual assistance or routine sharing may account well for maintaining a certain level of workforce stability, teacher satisfaction and a performance ‘floor’. They seem less likely, however, to account for high rates of innovation or high levels of collective commitment to specific curricular or instructional policies [or to] force teachers’ collective confrontation with the school’s fundamental purposes or with the implications of the pattern of practices that have accumulated over time’ (Little, 1990b, p.531).

The critical practices of adaptability used on the grids were modified to include the following:

- Design and prepare materials together
- Prepare workschemes / lesson plans together
- Observation with feedback
- Persuade others to try an idea or approach
- Make collective agreements to test an idea
- Mark and moderate work together

- Joint research / evaluation
- Dialogue around teaching and learning

Different forms of collaboration as critical practices were clearly seen by the staff of both schools to be located in certain places, spaces and times (*Figures 34 & 38*). I used the term ‘strong forms of joint work’ as this seemed more accessible to staff. Without exception, and in both schools, individuals in the department were cited as the primary locus of the strong forms of joint work (*Table 4*). At Kingbourn, the three major locations for designing and preparing materials together and marking were all ‘within’ the department (individuals within the department, department meetings and department office). This was largely subject/curriculum-based work which led to, or resulted from, the creation of work and markschemes, lesson plans or worksheets. The importance of the subject department as a location for joint work was confirmed by the longer written responses, where 58% of the total related directly to it.

At Brythnoth 52% of written responses cited the department as the main site for strong joint work, particularly in relation to individuals and department meetings. Designing materials, persuading people to try something and making collective agreements to test an idea all reflected this. Preparing materials and marking were also reported, particularly in the department office. The year group or pastoral team, however, figured more prominently than at Kingbourn in the locations of strong joint work, possibly reflecting the smaller size of the school, the more challenging pupils and the established and stable year teams. In both schools, departments exhibited different ‘footprints’ on the grid, (*Appendix XIII*) demonstrating the diversity between such groupings that is discussed in chapters five and six.

Fifty nine percent of the reported interactions at Kingbourn could be classified as critical practices or ‘strong forms of joint work’ (*Table 1*) in contrast to 49% at Brythnoth. The former was certainly a ‘successful’ school in relation to examination scores by pupils, but also in terms of the perceptions of staff and other constituencies. The proportions of these figures had changed since the 1998 study, which had however incorporated more interactions (*Table 4*)

	Average No. interactions per person		% Critical practices	% critical Practices
	1998	2001	1998	2001
Kingbourn	91	44	32	59
Brythnoth	49	28	16	49

Table 4 Interactions and critical practices

Dialogue about teaching and learning has been included as a strong form of joint work in this analysis, although the frequency with which it was reported and the interpretations given suggest that, like collaboration, its meaning to individuals varies widely. Here it is taken to be more than the story-telling, praising or complaining about pupils, or talking about social life. Situated learning implies that communication, including the spoken word, is formative, helping construct identities and the social world. A finer grained analysis of talk, through discourse or conversation analysis, would be of particular benefit in identifying and tracking influences and the modalities of power operating (Davies & Harre, 1990; Little, 2002; Boden, 1994).

In schools, designing and preparing artefacts such as work-schemes together is both a mode of engagement and an indication of the strength of interaction. It is in such exchanges that teachers are most likely to confront and discuss their differences, share experience and develop new knowledge rather than simply passing on information while continuing to work independently. This form of joint work was less common than lending and borrowing materials, which does not of itself require co-construction. Such critical practices of adaptability were reported least frequently overall. In Appendices IX & X the critical practices have been highlighted on each school's table. The graphics in figures 39 and 40 (following), illustrate this, however the layout should not be taken to represent a continuum or hierarchy.

Joint work interrogating meaning and confronting and engaging with difference, influencing others through argument and evidence, or mutually exploring classroom situations are precisely the generative forms of association that Wenger (2000) presents as most likely to create and develop communities of practice, as described in the next chapter. These are brought into being and maintained through the opportunity to learn and create knowledge together. On this reading, Kingbourn as an institution showed more of the features of a community of practice. Individuals there claimed more joint work, notably in preparing lesson plans together, observation and joint research (*Figure 41*). On all eight critical practices, Kingbourn scored similarly to, or higher than, Brythnoth but lower on the more affective areas of talk.

Figure 39

Kingbourn 2001 % Interactions with critical practices highlighted

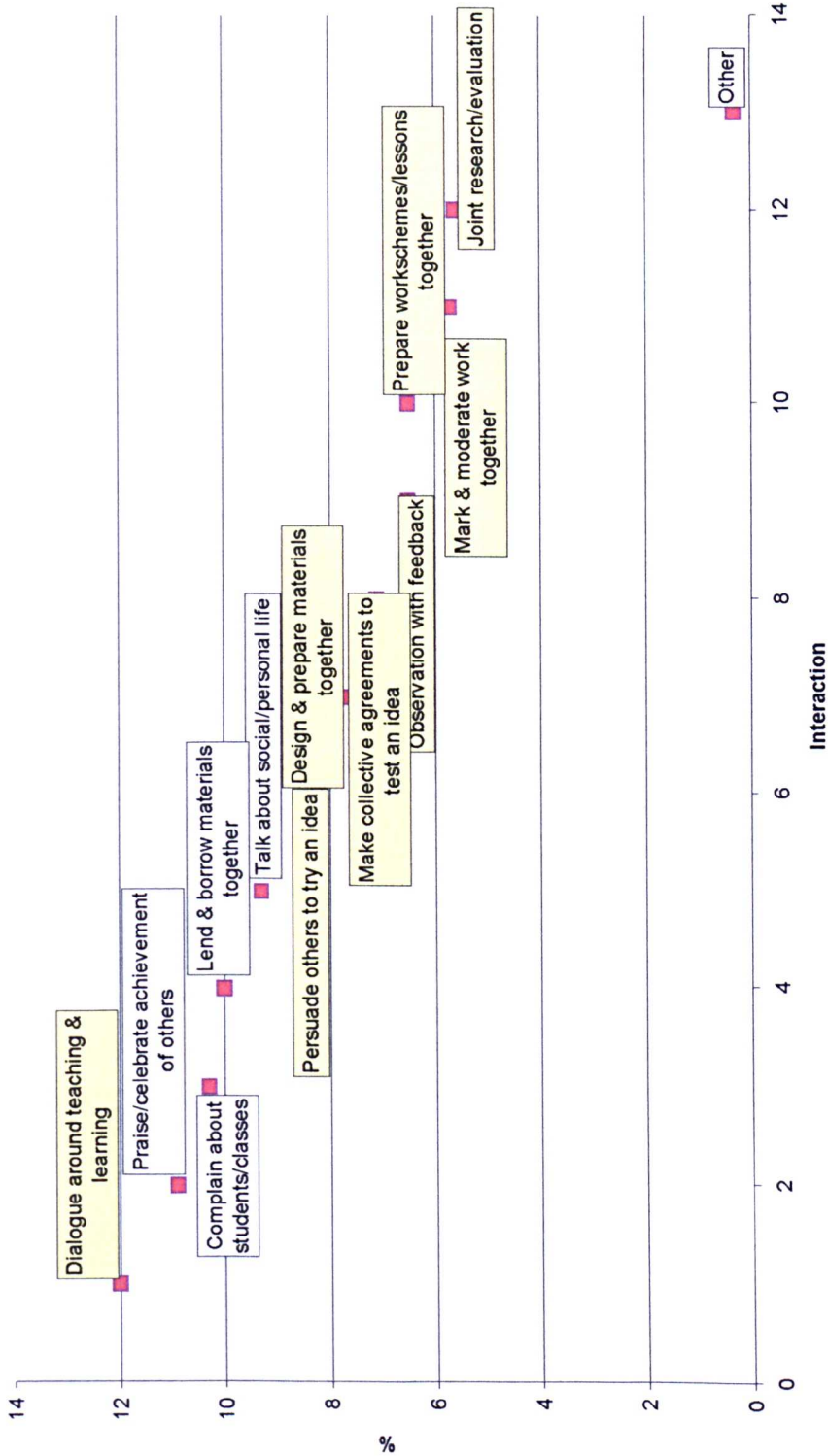
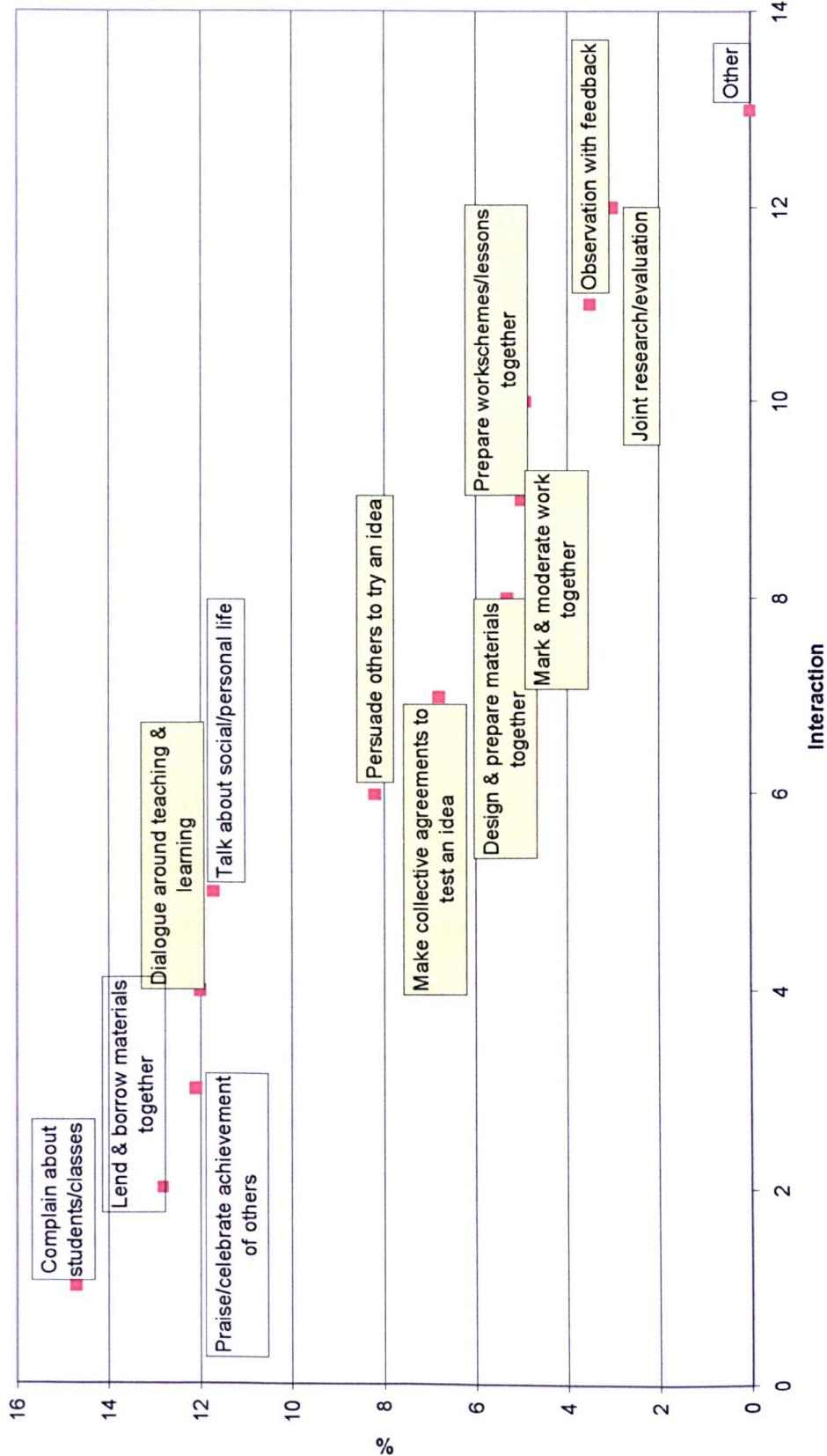


Figure 40

Brythnoth % Interactions 2001 with critical practices highlighted

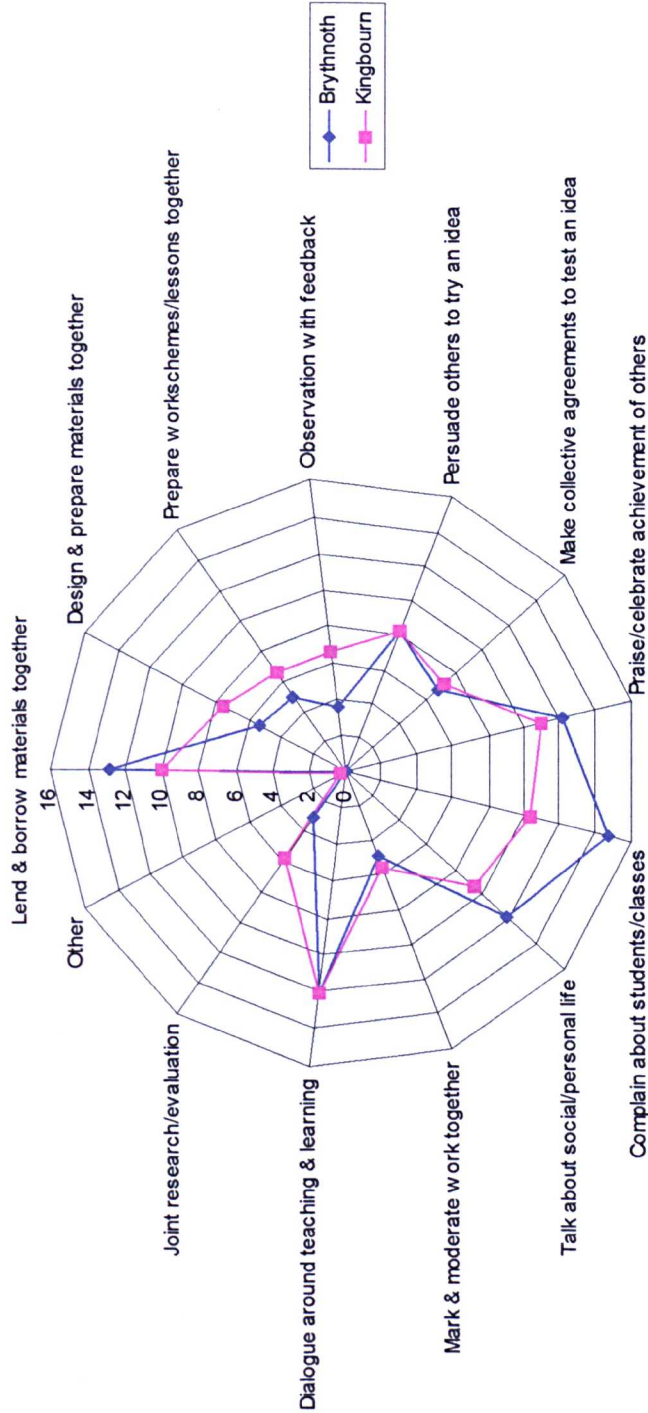


The kind of joint work and enquiry that critical practices of adaptability represent was promoted in a school improvement project at Kingbourn in association with higher education, Improving the Quality of Education for All (IQEA) (Hopkins *et al.*, 1998). This had been running for six years, with an explicit aim of creating conditions which would facilitate collaborative enquiry and development. The project was predicated on the idea that the typical hierarchical organisation of secondary schools has evolved in response to the maintenance and decision-making functions of management, and is not designed to facilitate research and development. In addition to the typical roles and responsibilities based on a vertical communication hierarchy, cross-curricular temporary membership groups ('cadres') were created to bring together a range of staff to work together in a '*status-free collaborative learning context*' (Jackson, 2000, p.8) to encourage lateral communication and learning. These voluntary cadres were initially partnerships or trios, and were supported through the provision of time to meet and make visits elsewhere and in opportunities to research and share findings.

At the time of the study there were six School Improvement Groups (SIGs) with two co-leaders each, with all staff associated with one of them. There was also a strong 'Students as Researchers' (SARS) programme in the school which involved pupils (Raymond, 2001). Collaborative enquiry based around classroom practice was a frequently stated central plank of Kingbourn's development plan and table 5 indicates a higher incidence of joint research reported at the school. The percentage does not, however, reflect the continual high-profile presence of the SIGs within the school.

Figure 41

Comparison of % Interactions Brythnoth & Kingbourn 2001



The staffroom was often the site for informal meetings of pairs or groups of staff engaged in projects, and regular meetings were also timetabled, although not always taken up. The SARS project groups also met with staff members at lunchtimes, although in some cases less reliably. While the SIGs therefore exhibited many of the features of communities of practice, they were created under the influence of the headteacher in partnership with external educationalists. However, they did not exhibit the characteristics of ‘contrived collegiality’ that result from compliance with imposition (Bush, 1995; Hargreaves, 1992a).

Total %		Kingbourn		Brythnoth	
		N=	%	N=	%
7.1	Design & prepare materials jointly	310	7.5	41	5.3
6.3	Prepare workschemes or lessons together	267	6.5	39	5.0
6.0	Observation with feedback	267	6.5	27	3.5
8.2	Persuade others to try an idea	335	8.1	65	8.2
7.1	Make collective agreements to test an idea	290	7.0	54	6.8
5.5	Mark & moderate work together	228	5.5	39	4.9
5.3	Joint research/evaluation	234	5.7	24	3.0
12.0	Dialogue around teaching & learning	491	12.0	95	12.0
57.5	Total	2422	58.8	384	48.7

Table 5 Strong forms of joint work

While the department was highlighted as a major location for all critical practices, dialogue and persuading someone to try an idea were emphasised in relation to ITT students at Kingbourn, which had become a Training School. This brought particular responsibilities and resources for student teachers and graduate trainees (15 in the year 2000), who were all attached to curriculum areas and a tutor group. While the students formed a social and reference group of their own, they were substantially located ‘within’ the departments they taught in and where they had subject mentors. Brythnoth, on the other hand, had withdrawn from the teacher training scheme run by a local

university. Barry Telford, the senior teacher charged with staff development explained that one reason for this was that it was felt by some that the students were weak and consequently made more, rather than less, work in having to support them.

In addition to ITT students, observation with feedback of individuals outside the department was also indicated to be important at Kingbourn. This was a result of the deliberate policy which paired staff up with chosen members of their SIG for the observations needed to satisfy performance management requirements. The observation and discussion of classroom practice on mutually agreed terms, particularly when linked with coaching, is increasingly identified as a potentially powerful area for practice-based learning (Harris, 2001a; Hopkins, 2001; Joyce *et al.*, 1999). In discussing teaching with students/trainees or members of other departments, practice is articulated and explained through mutual observation and dialogue. Colleagues may then identify and jointly explore areas of pedagogy they wish to develop.

At Kingbourn, individuals outside the department were also cited as partners in research, reflecting the design of the cross-curricular SIGs. Collective decisions to test ideas seemed particularly located in the subject classroom in relation to LSAs, which suggested mutual work and communication. This was witnessed at lunchtimes when the individual needs department always sat in one corner, notionally to meet together and also to be available for communication with teachers (they may also have been huddling together) (Paechter & Head, 1996). At Brythnoth the LSAs met together at breaktimes in their own room.

4.0 Workplace cultures

The frame for understanding such patterns in the original study was a cultural perspective drawing on insights from micropolitical studies (Ball, 1987; Hargreaves, 1994; Hoyle, 1988; Schein, 1985). Engagement with critical social geography and pedagogy suggested a more holistic approach through spatiality. Reflecting the interest in a variety of disciplines in exploring the culture of organisations, the 'cultural turn' in geography has highlighted the importance of social networks as relations of power, and the meanings that are made from them, as well as the material cultures within which they are embedded (Heyman, 2001; Richards & Wrigley, 1996). This parallels an emphasis on the discursive construction of distributed identities which has developed particularly in feminist scholarship (Gregson & Rose, 2000; Laurie *et al.*, 1999; McDowell, 1999), impacting on the idea that workplace organisation and practice are part of the multiple construction of identities (McDowell, 1997, 2001).²⁹

The concept of culture in relation to schools is also a rich source of debate. Nias identified a '*wilful lack of precision*' in the way that the term culture is applied in education, often being described as '*something felt, tone, ethos*' and '*climate*' (Nias, 1989b, p.143). For example, the organisational view of Deal and Kennedy compared educational and corporate commercial cultures, emphasising the importance of heroes, heroines and symbols. They concluded that culture could be explained as '*the way we do things around here*' or '*what keeps the herd moving west*' (Deal & Kennedy, 1983, p.83). Sergiovanni gives a more rounded definition: '*Culture is constructed reality. It is*

²⁹ McDowell (2000) describes how the emphasis on multiplicity and diversity is increasingly reflected in the texts and discourse of business management from stability to dealing with change. She suggests that growing competition in business from 'different cultures' (e.g. Asia) and globalisation of production has led, paradoxically, to an interest in what constitutes '*a culture*'. The commodification and consumption of 'other' (exotic) cultures by the privileged through the advertising, for example, of food or the promotion of the tourist industry, has also contributed to an interest in the meaning of 'culture' (Laurie *et al.*, 1999).

known by its representation. It consists of the beliefs, values and norms which govern 'what is of worth to this group' and how members should think feel and behave' (Sergiovanni, 1994, p.9). Schein provides one of the most comprehensive descriptions, suggesting that culture is *'the total of the collective or shared learning of that [social] unit as it develops its capacity to survive'* (Schein, 1985, p.18).

The cultural perspective has demonstrated considerable analytical power in understanding school life, particularly through ethnographies. However, school culture is more generally represented either as a monolithic totality or a system of dynamically related subcultures (Prosser, 1999). Both concepts still imply a homogeneity, and in some respects, stasis that resonates with common understandings of place as pre-given and bounded.

4.1 Teacher workplace cultures

The negative aspects of teachers working alone in 'egg-crate schools' were first highlighted by Lortie (1975) in his influential book 'School Teacher' which suggested the prevalence of cultures of individualism supporting norms of isolation and reluctance to engage professionally with colleagues. Acker (1999) observes, however, that conditions in British schools developed rather differently from the USA and, noting the permeable boundaries of primary schools and the number of extra-classroom activities, (now acknowledged by Lortie (1998)), challenges the sweeping nature of the assumptions. Collaborative teacher cultures, where teachers routinely support and learn from one another for the benefit of educational development, were identified and vividly documented in ethnographic studies of a limited number of primary schools by Nias, Southworth and Yeomans (1989). Relationships were characterised by trust, help

and openness, expressed throughout the workplace in numerous cumulative ways. Collective confidence in responding to change was fostered by the pervasive atmosphere of support.

Hargreave's (1994) depiction of such collaborative cultures has much in common with the form of communities of practice as discussed in the next chapter. He characterised them as voluntary, rather than administratively regulated, emerging initially from the staff themselves and being sustained by them due to their perceptions of the worth and enjoyment of the joint enterprise. Development oriented in secondary schools, collaborative cultures are pervasive across time and space, often expressed in brief and informal encounters and sustained by a mixture of the public and private, *'placing teachers' work in the context of their wider lives'* (Hargreaves, 1992a, p.35). It is perhaps these features that has led Hargreaves to imbue collaborative cultures with a somewhat essentialist view of 'the feminine'; *'Collaborative cultures have deeply feminine characteristics - spontaneous, evolutionary and unpredictable, intermixing public and private lives'* (Hargreaves, 1992b, p.234).

Such ideal types of collaborative cultures comprise norms of routine assistance, support, and openness encouraging joint work. Relationships are evolutionary and based on trust, which Nias (1989a) suggests is particularly derived from predictability and common goals. As there is broad agreement on educational values, such cultures can tolerate disagreement and failure and hence support risk-taking, managing conflict through modalities of power such as negotiation rather than domination or imposition. This most common view of collaboration relates to cohesion, where supportive teacher cultures and relations operate within norms of consensus (Gitlin, 1999). Collaboration and collegiality have thus been widely advocated as a means of reducing norms of privacy

and isolation which contribute to cultures of individualism and conservatism (Fullan & Hargreaves, 1992).

This study identifies the subject department in these secondary schools as a major feature of occupational life. This concurs with a growing body of work which suggests that these subcultures are the professional communities with greatest salience for such teachers (Siskin, 1994; Grossman and Stodololski, 1998; Little, 1995; Paechter, 1995, 2000). Teachers' identification with departments and the existence of subject hierarchies within the school where there is likely to be competition for resources, curriculum time and students, can lead to what Hargreaves (1994) characterises as the 'balkanisation' of teacher cultures. Here, individuals attach loyalty exclusively to the groups they work, or socialise with, most closely. This organisational pattern can limit movements towards a more coherent curriculum experience for students, restrict possibilities for workplace learning and maintain power and status divisions between subject specialisms. Hargreaves suggests that such modernistic structures need to be challenged to meet the needs of a complex and rapidly changing society, to create more flexible and responsive systems.

In exploring the spatial construction of youth cultures, Massey notes that *'In a long accepted formulation, 'cultures' and certainly 'local cultures' were understood as locally produced systems of social interaction and meaning'* (Massey, 1998b, p123), with a clear distinction between 'the local' and 'outside'. However, she argues for recognising the hybridity of cultures through a geographical imagination which interprets them as *'the outcome of incessant processes of social interaction'* (ibid, p.123) where local culture is one among many *'constellations of temporary coherence... set within a social space which is the product of interconnections from the very local to*

the intercontinental' (ibid, p.124). This formulation underpins the explanation of the spatiality of the school as a workplace and has been shown to have considerable power in explaining 'what goes on in schools' through the work of Jan Nesor. Teacher cultures are therefore not simply closed, locally-produced social and symbolic systems, but a product of interaction with active adoption and adaption of influences. *'The concept of culture has [thus] been the subject of innovative redefinition'* (McDowell, 2000, p.19), moving away from the notion of a homogeneous self-contained grouping or way of life to a more flexible and dynamic (although recognisable) configuration, constructed by its members as the result of a variety of influences.

4.2 Problematising collaboration and collegiality

In this thesis, the strong forms of joint work are aspects of collaboration where learning may take place through the collective making of meaning. Hargreaves and Dawe usefully differentiate between cultures of collaboration and what they term 'contrived collegiality', where collaboration is required by managers to facilitate pre-determined change. This form of teachers working together is regulated, limited in time and space and designed to have predictable outcomes, often linked instrumentally with 'school effectiveness'.³⁰ In this situation of 'contrived collegiality' teachers are exhorted to collaborate more when centralised impositions mean there is less to collaborate about (Hargreaves & Dawe, 1990). In terms of power relationships, this occluded coercion

³⁰ It is at this point that the conflation of terms collaboration and collegiality exhibits a lack of ontological coherence, which is particularly frustrating (Fielding, 1999). The use of collaboration and collegiality as synonyms is not merely semantically sloppy, it exemplifies a lack of clarity whereby, as Little puts it; *'The term collegiality has remained conceptually amorphous and ideologically sanguine'* (Little, 1990b, p.509). In an earlier typology (McGregor 2002b) I suggest that collegiality is in working to the same ends (although not necessarily on the same tasks). In the U.S.A. the term 'professional community' describes the school cultures most similar to this. See the special issue of Australian Educational Researcher for the debates around this (Fielding, 1999, Little, 1999, Hargreaves 1999, Thomson, 1999).

may encourage a pattern of individual and local subversion of what is imposed, despite an apparent compliance. Helsby (1999) suggests that there is such space for resistance, now less through organised associations and unions than a pattern of individual subversion, outside the boundaries of positional power (Datnow, 1998, Paechter, 1995). Such 'collaborative pretence' may have the effect of promoting the privacy that is seen as an enemy of educational change and is unlikely to motivate staff (Fullan, 1992).

Collaboration is also invoked by the new managerialism where the discourse of 'ideal' business practices enthusiastically espoused by much education management is one of flattened hierarchies, flexibility, consensus and collaboration. It positions all teachers as managers, arguably constructing good management/leadership³¹ as securing the compliance of staff in the prescribed impositions and pre-decided targets. The manipulation of teacher workplace culture thus becomes a mechanism of control, offering a rhetorical empowerment to individuals who accept responsibility for achieving a predetermined vision rather than evolving it collectively (Helsby, 1999; Reay, 1998). However, a developing literature on leadership as a process, actively linked with learning and able to be distributed throughout the school (rather than exercised through a positional hierarchy) makes explicit the importance of collaboration for transforming schools (Gronn, 2003; Jones *et al.*, 2003; McLaughlin & Talbert, 2001; Silins & Mulford, 2000). This argument will be explored in subsequent chapters in relation to the spatiality exhibited in the two study schools.

If collegial decision-making results in norms of uncritical support for professional autonomy then it may well militate against effective collective action, especially if staff

³¹ Despite conceptual advances and changes in orthodox educational discourse, teachers are still apt to conflate these terms (Grace, 1995; Jantzi, 1996; McGregor, 2003).

avoid challenge because of the threat of personal conflict (Horton, 1996). It is possible, of course, that collaboration can occur within a self-referencing, congenial and supportive group that develops a homogeneous 'group-think' operating only within an unchallenging 'comfort zone' (Fullan, 1993). Hence collaborative cultures can be inward looking with activities supporting 'cosy collaboration' that privileges comfortable interaction over a desire for improvement (Timperley & Robinson, 1999). It is also possible to collaborate effectively around issues that are redundant (Fielding, 1999a; Hargreaves, 1994).

5.0 Linking with learning

Learning organisations, workplace-learning, and knowledge-creating schools are also current buzzwords in the school improvement lexicon (Jackson, 2002; Hopkins, 2001; Hargreaves, 1999; Silins & Mulford, 2000). However, there is relatively little analytic power in such totalising notions if the school is taken to be an undifferentiated entity. Until relatively recently, little attention in education has been given to the relationship between knowledge creation and learning in the school as a workplace (McCormick, 2003).

Much learning theory focuses on either the individual or on the system, whether framed as an organisation or a community (Hodkinson & Hodkinson, 2001). While commonly approaching 'teachers' as an homogeneous group, and until recently, completely ignoring support staff, a high priority is given within commentaries on school reform to the value of collaboration, joint enquiry and reflection in the development of schools as

learning organisations or systems (Joyce *et al.*, 1999; Quicke, 2000). Rosenholz' extensive and influential study of teacher workplaces identified the importance of learning in 'moving' ('learning enriched') or improving schools as having more collaboration and more and varied learning opportunities than 'stuck' ones ('learning impoverished') (Rosenholz, 1989).

Workplace learning has features that distinguish it from other forms of professional learning: *'It is task focused, it is collaborative and it often grows out of an experience or a problem for which there is no known knowledge base'* (Retallick, 1999, p.34). Research on teachers' views of workplace learning indicate they believe their most effective and useful learning occurs through on the job experience and reflection (Hammond, 1998; Huberman, 1990) with the most important influences on such learning perceived as the context and the culture of the school (Retallick *et al.*, 1999). This is emphasised by what every newcomer to a school knows, that previous skills/knowledge used may mean quite different things in different workplaces.

Strong emphasis is placed in education on collaboration as a situated workplace practice supportive of teacher development, which in turn is cast as integral to school improvement: *'Teachers learn best by studying, doing, and reflecting, by collaborating with other teachers; by looking closely at students & their work and by sharing what they see'* (Hammond, 1998, p.8). Collaborative cultures are thus increasingly linked to workplace learning. *'Teacher development takes place most effectively in a school where there is a clutter [sic] of collaboration'* (Hopkins *et al.*, 1998, p.132). Hargreaves and Fullan identify the strengths of dynamic collaborative cultures in knowledge creation and the selective adoption of innovation (Fullan & Hargreaves, 1992; Hargreaves, 1992b).

'Collaboration replaces false scientific certainties or debilitating occupational uncertainties with the situated certainties of collected professional wisdom among particular communities of teachers' (Hargreaves, 1994, p.246).

Collaboration as robust joint work, with reciprocal problem-solving and knowledge creation has the potential for changing power relations, which is necessary if schools are to be transformed rather than simply improved (Gitlin, 1999; Jones *et al.*, 2003).

The suggestion is that collaboration can support learning through joint approaches and shared responsibility, reducing the fear of failure and thus encouraging risk-taking in relation to new enterprises (Fullan, 1999; Hargreaves, 2002). The habits and structures of challenging group work within an atmosphere of professional trust and respect are more likely to allow innovations to be evaluated in relation to existing practice, providing the confidence to selectively respond (Fukuyama, 1995; Useem *et al.*, 1996). This means taking charge of change, not just acquiring knowledge of best practice as a product, but reformulating, generating, testing and using locally appropriate new ideas (Stoll, 1999).

The professional development of teachers and their opportunities to learn from each other with the (relatively unsubstantiated) benefits afforded for schools can thus be seen as closely linked with situated joint work, where *'collaborative cultures turn individual learning into shared learning'* (Hargreaves, 1995a p.15). However, the nature of that collaborative learning is only beginning to be debated in relation to school reform or transformation (Little, 2002; Jackson, 2002; Quicke, 2000; Jones *et al.*, 2003). Where it is addressed it is often in terms of the undertheorised, 'catch-all' concept of context.

Here, however, context is seen as continually created by ongoing interactions which involve learning (rather than simply affective social interchange).

6.0 Factors affecting the interactions

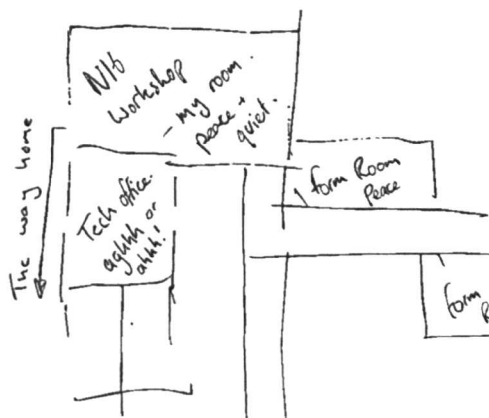
The main factors invoked by staff to explain the patterns of interaction in the study schools were (physical) space and time, professional and interpersonal relationships and leadership.

The physical arrangement of buildings obviously made a difference in facilitating or providing barriers to joint work. For example, at Kingbourn the new music block had to be built away from the media arts rooms (*Figure 10*) as it was too expensive to adapt the existing building. Duncan Patrick commented;

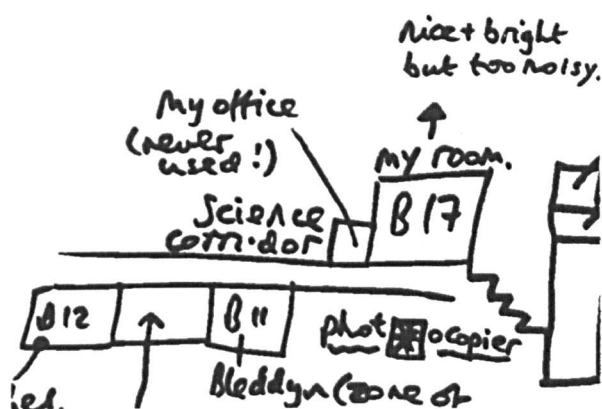
'I can see us splitting off more as a faculty and doing our discrete subjects as we all have separate rooms now. In that sense, space has been absolute in the way we have worked because now we work far less together'.

The effects of rooms dispersed across the site was raised particularly by humanities staff at Kingbourn where the faculty was consistently characterised as 'in name only' (Brian Tuckman, head of geography, Kingbourn). This was ascribed partly to the lack of a faculty office. Such offices were linked, as suggested by many of the 'mental maps', to strong feelings around identity (*Figure 42*) *'For me space equals a home base, so [in the absence of a faculty office] I use my classroom as a homebase'* (Rosie Jakes, head of social studies, Kingbourn).

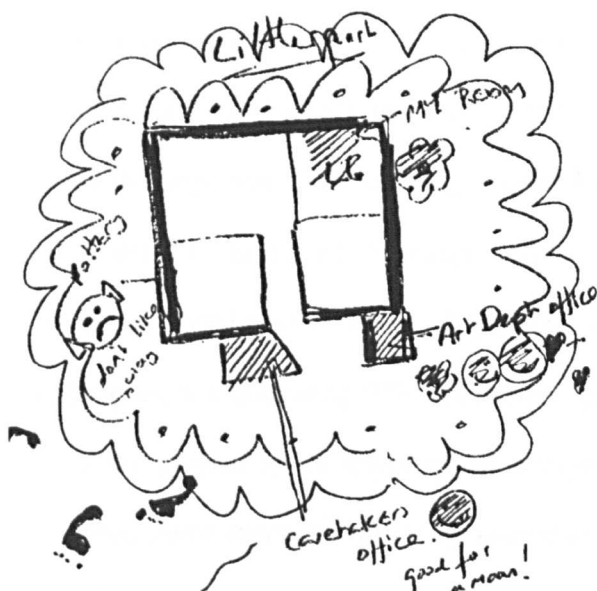
Figure 42
Mental maps illustrating
'my room' and 'the office'



a) Brian
Simon,
technology
teacher,
Brythnoth



b) Robert
Rawlinson,
head of science,
Brythnoth



c) Hilary Shaw,
art teacher,
Brythnoth

The conditions invoked as facilitating strong forms of joint work in one school, such as the use of department offices, did not necessarily produce the same effect in another. The science staff at Brythnoth had rooms not dissimilar to those at Kingbourn, although on two floors - with *'women and biology downstairs and physics and the men upstairs'* (Hilary Radlett, science teacher, Brythnoth). Although the science prep room was also an important hub, the spatiality of interactions in the small office was very different to that at Kingbourn. While various of the science staff generally met up over lunchtime there was little sense of coherence to the department, whose members described themselves as disparate.

'We never discuss the really important things. Points get washed over, people go off into their little groups, like downstairs, or go off and ooh it's useless, it's all so disorganised and at the moment it still doesn't seem to be coming together, it takes too long for things to be delegated' (Hilary Radlett, science teacher).

Time is a valuable resource in schools where there are relatively few occasions during the school day when teachers are in each other's presence. Little suggests that the more of those occasions and places that are considered appropriate for professional work, the more support there is for learning on the job. Teachers in the interviews were clear about the importance of providing protected and dedicated time. At Kingbourn, the use of timetabled protected meetings within the school day was seen as extremely important, particularly where they were explicitly structured (e.g. with pairs of colleagues, and allocating 50% of the meeting to development).

'I am stunned by the effect of the entrepreneurial use of time. The timetabler is given pairs which are made by choosing from those who are free. It provides a

facilitative mechanism to engender collaboration' (Jonathan Dexter, original head, Kingbourn).

At Kingbourn the greater frequency of interaction and higher percentage of critical practices reported, reflected the observed vibrancy and dynamism of the whole school workplace. Little (1982) points out that frequency of interaction is strongly related to judgements about value. If teachers perceive something not to be useful this decreases their subsequent participation. She suggested that the greater the frequency of interaction then the greater the prospects for it to build on or erode commitment. In both schools, the majority of interactions were in departments but were more frequently unhappy, dysfunctional ones in Brythnoth (notably in English and science) in contrast to the majority at Kingbourn.

Interpersonal relationships are regarded as crucial in the development of collaborative cultures, particularly in relation to conditions supportive of the confidence to ask for help (Little, 1990; McLaughlin, 1993; Nias, 1998). It was implied at Brythnoth, that 'norms of privacy' were a response where help-giving was associated with weakness, particularly in relation to classroom management. The importance of trust, respect and praise were continually emphasised by staff, as were confidence to share experiences, positive and negative, and to debate these constructively. A judgmental air of criticism was perceived as highly corrosive of collaborative possibilities.

A lack of appropriate leadership at different levels throughout the school was identified as a further barrier to joint work in Brythnoth:

'In my subject area I work on my own. In a way it was thrust upon me by the style of leadership - there is a difference in personalities - a good leader would make

use of differences - harmonise, bring people together. Having differences should be a strength but for us it is a weakness' (Lani Soler, English teacher, Brythnoth)
(McGregor, 2000a p.16).

In contrast, where professional relationships of mutual respect had developed, influenced by proximity over time and social relationships, a strong shared 'culture of collaboration' could be observed. This was illustrated in the science department at Kingbourn, of which the head of department said:

'There is a shared language [in the department] we all understand what we are talking about. With coaching we have to get into each other's classrooms, see it, experience it, talk about it. I try and act as a role model. If I have a lesson that goes wrong or well, I articulate it. I don't use my office, this was a conscious decision. It would decrease open dialogue dramatically' (Greg Parfitt, head of science, Kingbourn).

The importance of leadership was emphasised in both study schools. Rather than 'from the top,' this was seen to operate most effectively throughout the staff. It was noticeable that at Kingbourn, the staff had a greater consensus of what the term meant and apparently a clearer understanding of the nature and possibilities of leadership than did those at Brythnoth, who tended to characterise leadership as hierarchical and relate it to status and role. This appeared to be partly related to the amalgamation creating Brythnoth which had disrupted relationships and, for some, led to a preoccupation with status and task. At Kingbourn, staff were more likely to identify leadership opportunities as being offered throughout the staff and not simply the province of those in senior roles. There was thus a developing understanding of leadership as a process at Kingbourn, to which people could contribute at different times, irrespective of age or

experience. While Jonathan Dexter was acknowledged to be highly influential he was seen less as an authority figure than a transformational leader (Leithwood & Jantzi, 1990). At Brythnoth the head was generally liked and respected but was not the authority figure that staff seemed to desire.

'Power is either devolved or invisible, has become invisible. There is no sense of authority, no sensible unity to invoke authority. Any organisation needs a visible figurehead. We have lots of team leaders but they are not part of the same team. There is no president of the club' (Gregor Talmussen, head of humanities, Brythnoth).

Positional leadership was, however, seen to be fundamental in encouraging consistency in the application of common policies and the examination and restatement of common values and aims, whether at departmental or school level. The allocation of time and resources is a major way in which subject leaders and those in senior management can support collaboration as joint work, but endorsing its value throughout the school is particularly influential (Little, 1990a). This operated most obviously at Kingbourn where Jonathan Dexter was tireless in his advocacy of collaborative enquiry into practice and his commitment to find alternative ways of using time and space in the school.

The formal space-times that are often set aside for professional learning in schools, such as staff meetings and in-service training (Inset), proved to be those where least interaction (and possibly little learning) took place. Professional development programmes of induction, training and support were perceived to be unhelpful if they lacked coherence and were reliant on one-day courses for individuals with little feedback and follow-up. This was substantially the case at Brythnoth. At Kingbourn,

however, there was an emphasis on collective engagement with innovation and often, speakers were brought in to work with the whole staff (and those from other schools). Teachers were encouraged to pursue courses of further study and through a county school improvement project an 'outreach' Masters degree was set up with a university. An emphasis on the value of enquiry was driven by the head and developed through the SIGs and SARS programme. As a Beacon and a Training school there were also frequently visitors from other institutions.

At Brythnoth, while visitors such as LEA advisers or supply staff were welcomed socially, they did not feel professionally engaged. During the year of this study when there was a lack of an appropriate induction programme for beginning teachers and new staff they felt isolated and insecure, particularly when the web of social relations was weak in their departments. In contrast, at Kingbourn there was considerable emphasis on induction as an opportunity to articulate and revisit values as well as organisational issues.

The nature and content of the task was important in stimulating different forms and configuration of joint working. Cross-curricular events such as school plays or 'block week' (at Kingbourn) were given as examples of collaboration which could also be cross-phase. Innovations could provide an opportunity both for dialogue but also for sharing ideas at a similar level of experience/confidence, and creating new knowledge or configurations of it together. As such they were generally welcomed at Kingbourn as providing an opportunity to collaborate, while they were more usually perceived as a burden at Brythnoth.

Lesson observation was noted as a good use of resources, if it was focused on particular aspects of teaching and learning within a clear and positive framework for feedback. At Kingbourn, the mandatory performance management system that was being applied was moulded to fit and support the existing school improvement group structure, while at Brythnoth the scheme was less modified from the official recommendations (and therefore more likely to be experienced as contrived collegiality, although I did not observe its playing out).

7.0 Conclusion

The findings from the grid instrument and subsequent interviews concur with wider research in suggesting that there are various forms of teachers' work which exhibit complex but patterned configurations. These may have different 'strengths' in contributing to school-wide norms supporting continuous improvement and the development of collegiality. It is, however, precisely those associations which are arguably most powerful which are least frequently reported, being the most challenging and often time-consuming. In speculating that collaboration as a robust form of joint work contributes particularly to conditions supportive of teacher learning, it is necessary to interrogate the patterns of interactions more closely, to discover whether the polarisation of strong and weaker forms of joint work is a useful device and also how this contributes to the spatiality of the workplace. Avila de Lima's (2001) work on social networks and friendships in schools casts doubts on reducing the complexity of teacher interactions to such strong/weak binaries. A finer-grained study of the spatiality of the Science department suggested that the weft and warp of the relationships that characterised a collaborative culture for the staff at Kingbourn was woven inextricably from 'social' and 'professional' relations.

Power as social relations is diffused through space. It has been suggested that strong forms of joint work/critical practices of adaptability are where teachers are possibly most likely to 'learn on the job'. These collaborative opportunities were reported to occur in a patterned way. There were distinct knots in the fabric of interactions that created the workplace, notably the subject department. It is here that spatiality contributes a unifying perspective in viewing context as an ongoing set of social relations rather than a container for interaction. The Foucaultian conception of power employed by many critical geographers (Allen, 1999; Philo, 1992; Sharp *et al.*, 2000) sees social relations as relations of power. The patterns of interaction demonstrated in the schools suggest that opportunities for influencing others, through engagement with joint work, occur in/as particular places and space-times.

The critical practices of adaptability may also be interpreted as lateral modalities of power in a constellation of power relations, which are more likely to occur in/as certain spaces than others (Allen, 1999). For example, designing and preparing materials together requires *negotiation* and *co-operation*, observation with feedback a structured form of *association*, while *persuasion* to try a new approach or *make collective agreements* to test an idea are modalities of themselves. Research has suggested the difference between imposition (coercion) and the development of collaborative associations (Gitlin, 1999; Hargreaves, 1992a; Turnbull & Muir, 1999); while this aspect was not a focus of the fieldwork, findings suggest that certain space-times are more likely to facilitate the latter. It is 'within' (certain) departments that the range of these modalities may be most effectively expressed and the opportunities to exercise leadership as influence through them available. This will be influenced by proximity, but crucially by the ongoing dynamic of social relationships in assemblages of people, objects and ideas.

Wallace and Hall (1997) discuss the limitations of a single perspective in relation to schools as workplaces, and contrast the cultural and micropolitical approaches as dealing with normative consensus *or* (hidden) conflict. Their study of SMT interactions showed both the importance of the values of culture and the differential use of power (where power is the capacity to intervene in events to change them). Spatiality, employing a conception of power as distributed through/comprising social space, allows that power can be positive, as in the lateral forms of associational or affiliative power (Allen, 1999).

The cultural perspective is likely to prove useful in relation to departments and subject-related difference in beliefs, as explored in chapter six, but there is a need to recognise cultures as constructed, as temporary and dynamic constellations of relations which are evolving rather than pre-given. In education the mechanisms of such construction are under-theorised and under-researched. People do not simply enter a culture or community of practice (although that is not to deny that this is clearly experienced) but necessarily affect/effect it through their interaction and the trajectories by which they 'arrived'.

The frame of spatiality brings together the notion of learning and knowledge as organisations of dynamic social activity where learning occurs and knowledge is produced socially in specific space-times (Nespor, 1994). Learning is thus situated *as* rather than situated *in* spaces (Keith & Pile, 1993), space-forming as well as space-contingent. The following chapter explores in more detail such interactions in relation to communities of practice, and subsequently, networks as constitutive of relations of power are scrutinised in relation to a department in one of the study schools.

Chapter Five - Re-placing knowledge - Towards and beyond communities of practice

1.0 Introduction

The school as an institutional space is constructed through a series of different geographies and negotiated cultures through which identities are performed. In a consideration of communities of practice as a way of exploring interactions which construct the workplace, I revisit concepts of culture and community, and suggest the importance of place and the spatial in learning and in constructing a dynamic community. The empirical work of this study on teacher association and the making of meaning about the workplace, suggests that practice-based theories have much to offer in identifying the 'concrete situations' where collaboration becomes joint learning. This chapter identifies the utility of a model of intersecting communities of practice, but notes the need for it to be spatialised to highlight the operation of power and the wider reach of heterogeneous networks. The notion of context as emergent rather than pre-determined is further developed. I conclude with the political importance of such conceptualisations for (workplace) learning in schools.

Like culture, the notion of community is a slippery one (Fielding, 1997, 1999a; Avila de Lima, 2001). It is frequently presented in educational literature as a monolithic, physically-bound and pre-existing entity, for example 'the community' within which the school is 'placed'. The metaphor of community through collectivity can usefully, however, place emphasis on shared goals, mutual support and obligation, rather than the present politically-driven focus on management structures and accountability (Fielding, 1996; Sergiovanni, 1994). Core notions of community revolve around '*stable patterns*

of trust, mutual interdependence, and permanent personal investment to the group' (Leithwood & Louis, 1998, p.279). In studying the spatiality of the school workplace, a framing question for this chapter is: can we distinguish 'communities' which are spatially defined and discrete (McDowell, 1997). If so, what are the social relations and values attached to that particular place by the people who inhabit 'it', or is community a more fluid, relational form?

Over the last decade there has been increasing interest in education in the concept of 'professional communities'. This integrates an emphasis on the professionalisation of teachers' work through increasing practice-based knowledge with sustained communal relationships and activities (Leithwood & Louis, 1998; Louis, 1995). Professional communities have been identified as critical contexts of teaching in secondary schools (Louis & Kruse, 1995; McLaughlin & Talbert, 2001; Talbert, 1995; Westheimer, 1998), although there is disagreement over the scale of such entities and the nature of boundaries. Communities may be congruent with organisational and cultural units such as the department, may reflect groupings on the basis of shared issues rather than disciplines, or take the form of networks that extend beyond the school.

The extensive research programme of the Centre for Research on the Context of Secondary School Teaching (CRC) provides evidence for the role of communities of teachers as the meaningful unit for teacher professionalism (Little & McLaughlin, 1993; McLaughlin & Talbert, 2001). The large-scale study found significant variations in teacher commitment, service ethic and technical culture (the dimensions of professionalism explored) related to the extent and strength of such communities. Strong communities encouraged a shared and developing knowledge base through discussion and reflection on practice, sharing successes and failure, and a commitment

to meeting the needs of all pupils. This fostered robust professional identities and commitment. While supporting the notion that '*norms of teaching practice are socially negotiated within the everyday contexts of schooling*' (Talbert & McLaughlin, 1996, p.142), the survey did not look at *how* teacher community develops in local teaching contexts, or the interrelationship with the different levels of the education system.

Practice-based theorising provides a conjunction of learning and social theory amongst which a social constructivist perspective is prominent (Fox, 2000). The particular focus of this chapter is on communities of practice, a notion gaining currency in educational literature (McGregor, 2003; Harris & Bennett 2001; Little, 1999). Lave and Wenger's (1991) theories in relation to the situated learning of novice members to a group engaging in shared practice, suggest that learning is tied to ongoing practices of groups or communities of people. '*A community of practice is a set of relations among persons, activity and the world, over time and in relation with other tangential and overlapping communities of practice*' (Lave & Wenger, 1991, p.98). This notion has been developed through Wenger's later work (Wenger, 1998, 2000) which further emphasises the social and negotiated character of learning. Practice is created by members of the grouping *through* the making of meaning together, which reciprocally brings into existence the community.

This evolving conceptualisation of an informal network of relations as dynamic and constructed through practice has much in common with the understanding of space as performed (Rose, 1999), locating the community as the site of the learning process. The social structure and spatiality of the cultural practices in which members participate defines the possibilities for learning (or not). Using empirical data from the study of teacher interaction, I examine the possible character and constitution of communities of

practice in one of the study schools in relation to the '*organisation of space into places of activity*' (Lave and Wenger, 1991, p.55). In exploring the idea that '*communities of practice are a crucial locus of learning*' (Little, 2002, p.935), the relationship between weak and strong links in work practices, and relations between staff and the location of those interactions, is further addressed.

In assessing the utility of Lave and Wenger's (1991) developing model of communities of practice for explaining the patterns of collaboration and learning in schools, I suggest that it is substantially lacking a developed analytic of power, which could be expressed through a spatial perspective. Seeing power as emerging from action, through modal effects such as persuasion and collaboration, highlights the importance of thinking spatially. Thinking spatially helps to insert power into the model by exploring the ways that space affects the operation of different modalities of power such as negotiation, where the '*assembling of power is part and parcel of social reproduction; it is a spatially active, discursive and representational process*' (Massey *et al.*, 1999, p.172). A spatial perspective also requires further exploration of the locations of such communities where practice involves elements beyond observable interactions in a physical location (Nespor, 1994).

Wenger's (1998) emphasis on the local/parochial (although not necessarily face to face) nature of communities of practice, is reminiscent of the cultural perspective on homogeneity which fails to take account of new understanding of local/global relationships in space-time. Certainly in earlier work, the community is seen as a container for the learning process rather than necessarily constitutive of it, although the later formulations represent a radical shift from pre-existing invariant structures to ones which are more the result of processes or actions. Nespor (1994) challenges the notion

of individuals participating in small-scale communities of practice with the argument that such entities are not located *in* time and space, but *constituent* of it.

A final section in the chapter proposes that the intrinsic openness of spatiality has important implications for teaching and learning in schools, through identifying and recognising collective spaces of debate and action which may be described in Arendt's conception of 'public', in that members participate as part of a constitutive community (Allen, 1999). This has important resonances with the work of critical theorists in education who seek to make it a more equitable and transformative process (Brown & Kelly, 2001; Giroux *et al.*, 1996; Morgan, 2000b).

2.0 Practice and activity based theories

The growing importance of interactive, practice-based theorising parallels the increasing use of relational approaches in the social sciences (Gherardi, 2000; Massey, 1999a). These approaches, including situated learning theory (Lave & Wenger, 1991), activity theory (Engestrom *et al.*, 1998) and Actor-Network Theory (Latour, 1997), move away from a structural analysis of behaviour in terms of pre-existing systems and contents to a focus on actors' contributions to the social order. There is a greater emphasis on emergent processes and the roles of association and negotiation in constructing the social.

Conventional views of learning as an individual assimilating knowledge transmitted by others, or even as discovered or experienced through interaction, are the basis for much teaching in schools. In traditional cognitive learning theory, knowledge is located in the heads of individuals; it pre-exists their knowing and can be appropriated, transmitted

and stored. This is similar to the traditional way in which power has been conceptualised, as a zero-sum possession (Lukes, 1974), in contrast to the Foucaultian conception of power as a constellation of relational influences (Sharp *et al.*, 2000).

Cross-disciplinary research on situated and distributed cognition indicates the importance of the surroundings in which learning ‘takes place’ (Bingham, 2001; Bingham *et al.*, 2001). The suggestion is that learning takes place through participation in a practice where learning is evidenced by changes in knowledge and action. Practice thus is a system of activities in which knowing is not separate from doing. *‘Participating in a practice is consequently a way to acquire knowledge-in-action, but also to change or perpetuate such knowledge and to produce and reproduce society’* (Gherardi, 2000, p.215). Situated learning is then a social, participative and generative activity rather than merely cognitive, and hence is an important element in spatiality.

In Lave and Wenger’s (1991) model, learning happens through participation rather than as acquisition. Knowledge is not *something* that can be carried around or given away, but is located *in* the situation (Desforges, 2000) or rather in terms of spatiality, *as* an element in the situation. Activity theorists such as Engestrom (2001) locate learning in the social and communal, but in activity systems rather than communities of practice (Hodkinson & Hodkinson, 2001). Such theories arguably have potential to relate the structural, material and cultural dimensions of workplace practices and learning together more satisfactorily in bridging binaries such as structure and agency.

The concept of knowledge production as situated and relational (whether influenced or created by ‘context’) is particularly developed in critical, post-modernist and feminist writing on social transformation, for example in Haraway’s (1991) exploration of how

(bodies and) meanings get made (McDowell & Sharp, 1999). The argument that all knowledges can be situated recognises the emancipatory possibility of *'limited and situated knowledges that are explicit about their positioning and sensitive to the structures of power that construct these multiple positions'* (McDowell, 1992, p.413). It is not the nature of those knowledges that are of direct concern here, rather, how they may be produced among adults through different forms of association.

Geographical questions may be asked about the role of place in knowledge formation – 'How is place co-constitutive of knowledge/experience/identity and how is knowledge embedded in places (to be accessed through them)? How can we re-place knowledge?'

³² Lave and Wenger (1991) suggest that 'the place of knowledge' is in communities of practice, which can be delineated through their temporal cycles of reproduction. A consideration of the spatiality of the workplace goes further than this by identifying practices as intersections of trajectories that *'tie together distant times and spaces and give them form as social space'* (Nespor, 1994, p.16).

3.0 Communities of practice

A community of practice, as initially described by Lave and Wenger (1991), comprises individuals bound by shared practice creating knowledge through interaction. The process of learning is situated in *'legitimate peripheral participation'*, an apprenticeship model where what is learned is that which is taking place through access to participating roles in the community. One becomes a member through participation in actions and

³² Questions posed as part of a call for papers for AAG New Orleans 2003. (Pete Adey, Critical Geography Forum, 28 June 2002).

investing those actions with the status of reality (reification through creating artefacts, protocols etc.). Learning in communities of practice is not through formal teaching (although that may occur) but by being assimilated.

Such groups of people share similar goals and interests, forming around a professional discipline, a skill or an issue, employing a shared repertoire of common practices, artefacts, routines and language, whether they are insurance clerks, midwives or tailors (Lave & Wenger, 1999). They are held together by a common sense of purpose and the need to know what the others know. Communities of practice are also important sources of identity where individuals may define themselves through the communities to which they belong, or do not (Wenger, 1998). Engaging with materials and technologies of practice is also part of this process, where knowledge is encoded within artefacts.

In later work, Wenger (2000, Wenger *et al.*, 2002) expands the idea of the locus of learning being distributed among the co-participants, by explaining how knowledge is created through the social relations and interactions at the periphery or boundary of a community, for example, in the entry of new members or interactions with other communities. When crossing boundaries there are particular opportunities for misunderstanding or reinterpretation which can lead to negotiation and the creation of new knowledge. Knowledge is then a dynamic process, with communities as emergent social structures in/through which knowledge is reciprocally created (Wenger, 2000). Through common activity and collective learning, people come to hold similar beliefs and values and develop cultural practices. We might speculate that this may happen particularly in schools where communities of practice overlap with departments as subject subcultures as well as organisational units, thus questioning the extent to which subcultures are structurally defined.

3.1 Locating communities of practice

To look for communities of practice among adults in schools, it is necessary to study the form and pattern of interactions and association in relation to reference groups such as fellow trainees, organisational structures such as subject departments or year teams and different spaces like the staffroom, 'the office' or canteen. It may also be useful to note where people do *not* meet and share practice. Wenger suggests that excavating changes over time in relation to cycles of practices suggests the modes of development of such groupings. *'Learning is the engine of practice, and practice is the history of that learning'* (Wenger, 1998, p.96). In schools this might be related to the 'academic year' which quite clearly defines co-presence of staff and students and often the operation of a particular element of the curriculum. A consideration of the repertoire and shared language of such groups, including the particular modes of talk and relationship with artefacts and technology, also helps to define boundaries created by practices.

Teachers see the 'contexts' of their work particularly in terms of their pupils (McLaughlin & Talbert, 2001) and their colleagues (Hargreaves 2002; Little, 1993; Talbert, 1995). The complexity of the secondary school as a workplace is reflected in a variety of formal and informal reference groupings marked by characteristics as diverse as age, gender, role, curriculum area, political orientation or being smokers (Mac an Ghail, 1994; O'Boyle, 2001; Nias, 1998). Busher (2001) identifies three main types of grouping: formal groups (e.g. subject departments); groups with identified foci and membership (e.g. curriculum or special interest groups), and diffuse networks of people sharing interests outside school. Examples of the latter in this study included newly-qualified teachers in both schools, particularly a group of young women at Brythnoth

and those involved in the regular ski-trips from Kingbourn. Any, or all, of these might be communities of practice.

If one takes the view of communities of practice as including gendered groups such as 'working mothers', then people always belong to more than one community of practice. Staff in secondary schools are simultaneously members of a school, probably a department and pastoral team and possibly a management or cross-curricular group (Bennett, 2001), thus constructing a characteristic series of power-geometries. They also may belong to a broader constellation of communities such as those on-line or subject associations.

In this study the majority of teachers interviewed identified themselves initially as a teacher, or subject teacher, going on to note a particular specialism (like physics) or particular role such as head of year. In answer to the question 'How do you describe yourself in your professional capacity?' a Kingbourn teacher answered:

'I start off if they want a quick answer by saying teacher, if they want a bit more I'd say I teach science to GCSE but chemistry to 'A' Level. If they want more of an answer I might go onto being a head of department. And if they really want to get to know the ins and outs I might start 'Teaching about Thinking' and other areas I'm interested in. I might also expect them to know that I am also a tutor - that goes by the by. So it's a difficult question really and it depends who I'm talking to.' (Delphine Proudfoot, science teacher, head of chemistry, second in science faculty, tutor, Kingbourn).

This alone suggests that workplace identity is not a unified entity, or even a single trajectory, but a '*nexus of multimembership*' (Wenger, 1998, p.159). Teachers may also be seen to behave quite differently in the classroom, staffroom or the headteacher's office, representing and constructing different aspects of themselves.

Discussions over the location and extent of the most salient 'professional community' for teachers revolve around whether it is found in the whole school, or at the level of smaller organisational and disciplinary or informal units. Subject departments have been clearly identified as important subcultures in secondary schools (McGregor, 2002a; Siskin, 1994). In subsequent chapters I suggest that departments are a particular nexus of interaction and identity, through which internal and external influences and pressures are mediated. Louis and Kruse (1995), however, look to the unit of the institution and use the term professional community to describe school-wide assemblages, exhibiting shared norms and values, reflective dialogue, deprivatisation of practice, collaboration and a collective focus on student learning. This maps best onto concepts of collegiality, (Louis and Kruse, 1995; Newmann & Wehlage, 1995). There are thus tensions between the existence of multiple and overlapping subcultures and the whole school coherence seen as necessary for school improvement (Busher, 2001; Hannay & Lum, 2000; Hargreaves & Macmillan, 1995; Little, 1995; Sammons *et al.*, 1997). It is here particularly that the concept of communities of practice can provide an analytical approach to workplace interaction, distinguishing boundaries between groupings and suggesting where to look for the space-times most likely to be facilitative of collaboration and learning.

How can we distinguish between communities of practice, teams as organisational units and subcultures, such as subject departments? How is this expressed spatially? Teams

(e.g. subject and year teams), are often seen as organisational building blocks and certainly in the study schools formed major sites for workplace interactions. Departments as teams are defined organisationally, usually within line-management structures, and in time and space by the timetable of lessons. Here people are engaged in the pursuit of a common goal with recognised tasks and desired outcomes for which they are jointly accountable. Subject classrooms are often grouped in close proximity and individuals are likely to spend significant and substantive time in interactions with their departmental colleagues, particularly where there are departmental offices and strong social ties (McGregor, 2002a). Thus subject subcultures tend to develop with their distinctive spatial dimensions, curricula, practices, language, beliefs and values (Ball & Lacey, 1984; Little, 1995; Paechter, 1995; Talbert, 1995).

Nias (1998) argues that it is to colleagues that teachers turn for emotional and practical help and support when collegial relationships are sustained by compatible beliefs and values, and where collaboration is based on reciprocity rather than asymmetric help giving which undermines self-esteem. If values are congruent then the culture sustains teacher development, otherwise it excludes them and obstructs it. This resonates with conceptions of culture and community predicated on homogeneity, security and what is known, rather than the uncertainty that necessarily accompanies learning at the limits of one's competence - 'outside the comfort zone' - or forging knowledge that is completely new (Ogawa, 2003).

Early formulations of the cognitive apprenticeship model of communities of practice laid most emphasis on sharing and passing on what is already known, rather than confronting novel situations of developing new knowledge; this had more congruence with the cultural perspective. More recent writing (McDermott, 1999; Wenger &

Snyder, 2000) reflects importance of the active construction of new knowledge through social relations which is central to activity theory and social constructivism (Morley & Hosking, 2003).

4.0 Collaboration in communities of practice - Core practices and boundaries

Chapter four proposed different orders or types of interaction with the notion that certain forms (or networks) of association are more likely than others to facilitate learning (and the co-creation of new knowledge) and 'take place' in particular locations. Patterns varied between and within the study schools and here I explore particularly how the 'critical practices of adaptability' used, map onto the characteristics of communities of practice that Wenger (1998) describes. A further aim is to identify the workplaces that exhibit these.

While quite instrumental on one level, when the process of discussing and negotiating a scheme of work or collectively testing an idea is done face-to-face, it provides an opportunity for learning through the negotiation of meaning. 'New' knowledge may thus be created. It is subsequently likely to lead to the reification of practice and curriculum knowledge through, for example, schemes of work, which can then become 'immutable mobiles' (Law & Mol, 2001) moving that knowledge around. I observed the science department meetings where schemes of work were discussed at both Brythnoth and Kingbourn. While chemists in the latter discussed and negotiated together at length, the Brythnoth science teachers argued about which text books to buy apparently as a proxy for discussing which (quite different) science curriculum should be taught in year eight. They then took 'chunks' of the schemes of work away to complete alone, to be

eventually reassembled by the head of department, with the variable format, amount of explanation and exemplars being a subsequent source of dissatisfaction to almost everyone. Without much finer grained work it is only possible to suggest that more practice-based learning took place in the former situation than the latter.

While the department was highlighted as a major location for all critical practices (*Figure 34*), dialogue, and persuading someone to try an idea, were shown to be particularly important in relation to ITT. Observation and discussion of classroom practice on mutually agreed terms, particularly when linked with coaching, is increasingly identified as a powerful area for practice-based learning (Harris, 2001a; Hopkins, 2001; Joyce *et al.*, 1999). These were both important at Kingbourn (*Appendix X, Appendix graph XII*). In discussing teaching with student/trainees or members of other departments, practice is articulated and explained; through mutual observation and discussion, teachers may then identify and explore areas of pedagogy they wish to change. This is an example of legitimate peripheral participation, with learning taking place particularly at the boundary of communities of practice.

4.1 Engagement

The self-reporting of the location of interactions, while identifying overall patterns, does not exemplify the rich texture of associations, which were investigated more closely through interview, observation and activities such as photography and 'mental mapping'. An aim was to examine why, as well as how, teachers collaborate, and the factors supporting this. Wenger (2000) identifies three main modes of belonging to a community of practice: engagement, imagination and alignment. The reasons teachers

gave for the patterns of association reported and observed are interpreted in relation to these dimensions.

Unsurprisingly, engagement, or doing things together, is a particular characteristic of communities of practice in the workplace. It interacts with the degree of common understanding people have of the enterprise in hand, and the ability to identify gaps in knowledge through joint enquiry and address them through collectively testing ideas. This ability is enhanced through a history of shared experience and language and the accumulation of artefacts and methods. These elements can be used to explore where the boundaries of such groupings lie.

When teachers in the study were asked to identify the five people with whom they worked most closely they rarely came up with more than four names. These were mainly 'within' the department but also included support staff and year teams. At Kingbourn the SIGs were also mentioned, generally by those in the cadres. In 2001 the SIG groups had been operating for two years. In the second year all staff were asked to associate with one of the cadres, initially through workshops on one of the staff days. Greg Parfitt was responsible for the SIGs with Christopher Jordan, and a rigorous end-of-year review showed *'huge differences between the groups, with one associate group voting with their feet'* (Greg Parfitt, head of science). Characterised as being at the other extreme was a group who had worked closely to develop a coaching system in tandem with observation and had produced a coaching guide using the well-defined language they had evolved. Greg attributed their success to having started from a stronger base of earlier work with 'good leaders'. The genesis and *modus vivendi* of these groups were not explored in detail, but one might speculate that the 'successful groups' exhibited more of the characteristics of communities of practice. Greg Parfitt commented on the

need for cumulative development over time. *'The inertia in education is enormous. It is like rolling a huge rock uphill. You have to lean hard against the rock for a very sustained period of time if you're going to make a real lasting difference'*.

The development of social capital, encouraging engagement through mutuality, is identified as a major component of a community of practice, particularly in relation to trust. This was emphasised by teachers time and again, and linked to their confidence to share experiences, positive and negative, and to debate these constructively. At Kingbourn, the majority of those interviewed were more positive than the staff of Brythnoth about working closely together in different ways, and frequently cited a variety of sources and kinds of support. This is illustrated by a comment from a trainee in the science curriculum area:

'It is a very good school here, with a very supportive and friendly staff. I had a time last term when I had a bad week. I came into the staff room and bawled and people came over and gave support in different ways, sat by me or said 'this happened to us... it still happens'' (Wendy English, science trainee teacher, Kingbourn).

Further factors encouraging a range of modes of engagement included the operation of the department office as an inclusive space. This was articulated particularly clearly in the science department at Kingbourn, on which the rest of this section focuses:

'Everybody goes [to the science office], the likelihood of meeting people is quite high. Having a space for this cross-fertilisation, whether it is lessons or cross-curricular involvement, is absolutely totally fundamental, though people do sit in departments in the staffroom. I really do not want to be in such a cramped environment, but it also gives us space for the technicians, they are part of the

department. One of the reasons we are so close [laughs] you either make it or bake it in a place that size. ' (Delphine Proudfoot, head of chemistry, Kingbourn).

Thus more affective interactions such as talking about personal and social life become part of the fabric of the grouping.

In this department, mutual respect had developed over time. After a change in faculty head, the heads of subject had worked together for around six years and were familiar and comfortable with their management roles: *'We know what we're doing, we know the management jobs we do, therefore it gives us the freedom to move on.'* (Delphine Proudfoot, head of chemistry, Kingbourn). There was a joint history, which included sharing 'personal' as well as professional problems. Two of the women had become good friends, and had supported each other through particularly difficult experiences, which were acknowledged to be part of the glue that held the department together:

'From a newly qualified teacher in the classroom, to an experienced teacher, we can face major personal disasters. If you've shared terrible times and you've survived all these things together, you know who your friends are' (Delphine Proudfoot, head of chemistry, Kingbourn).

Conventional social occasions, such as cycling trips or an end of term curry night were also seen as important in constructing the department and evidenced through the photographs of past such events displayed in the office.

'We like to have a laugh together as well. We like people. If you can laugh and play together then you can talk and do other things together that mean a lot to you, whether unemotional, objective curriculum stuff or the emotions of that

lesson, how things could improve or whatever' (Delphine Proudfoot, head of chemistry, Kingbourn).

Thus modes of engagement were dependent one upon the other, suggesting that the concept of 'strong and weak links' and their relative importance in creating collaborative cultures or communities of practice needs to be investigated further. This was proposed by Avila de Lima (1998) through his study of the importance of friendship in constructing collegiality. Through these various organisational, social and emotional strands, a relatively closely knit group of people had evolved modes of open dialogue which were recognised and valued: *'We're not playing any games in here, we can say what we think and it's OK, in fact it's more than OK - it's positive'* (Delphine Proudfoot, head of chemistry, Kingbourn). It is possible that not all the members of the Science department felt themselves a part of a community of practice; there were certainly gender issues around interaction which are highlighted in chapter eight.

Legitimate peripheral participation on the part of new members, or perhaps members of the department like technicians, was supplemented by the interplay of expertise between 'old timers' and 'new recruits' as described by Wenger (2000). This highlights the reciprocal importance of content and form in teacher culture (Fielding, 1999b; Nias, 1995). Interactions with ITT students accounted for a significant percentage of the critical practices of adaptability reported in the department. They provided the highest figures for dialogue around teaching and learning and designing and preparing materials together. This suggests that the presence of students was important in creating the community of practice through these strong forms of joint work. For example, innovations provided an opportunity for dialogue and sharing ideas at a similar level of experience/confidence, at the leading boundary of what was known already. As such

they were generally welcomed at Kingbourn as providing an opportunity to collaborate, particularly in being able to involve younger members of staff (challenging the conventional hierarchy of experience)³³, while they were more usually perceived as a burden at Brythnoth and approached in a more instrumental fashion.

'The whole department want to progress so much and know they have to do it together. As students coming in we are welcomed and supported by the department. We are seen as having new and fresh ideas. I feel that Science is the most progressive department. New strategies are always being discussed in staff meetings' (Wendy English, trainee in science, Kingbourn).

The science curriculum area at Kingbourn had a history of working together to create joint work-schemes, for example in setting up Integrated Science programmes. This required interrogating the meanings and pedagogic orientations brought by teachers trained in different disciplines such as physics and biology. The adoption of Cognitive Acceleration in Science Education (CASE) also provided an opportunity to work with recently qualified teachers who were actually more familiar with thinking skills work.

'In terms of the Science teaching, people really grab hold of it [CASE]. It has literally changed their practice and changed the way they teach. I think the thing that has the impact is the fact that we teach outside our subject area and you have to talk to each other about practice. So the two together mean that there is this environment to discuss, together with the fact that we moved very much away from information giving and structured meetings. We restructure it all around including teaching and learning as much as we can. Whatever way that means' (Delphine Proudfoot, head of chemistry, Kingbourn)

³³ Though this approach was not universally welcomed - some among the 'Dorothies' expressed the idea that sometimes new staff were asked to make presentations etc. for the sake of it, rather than older staff who might make a fuller contribution.

The CASE work also provided the opportunity to engage with members of other departments, and Delphine worked closely in a SIG group with colleagues from maths and English. Together with the Gregg Parfitt, she had many links with other teachers interested in the ideas within and beyond the county. By tracking an individual such as Delphine over time it should be possible to explore their interaction with others around a given innovation. As Nespor (2003) illustrates, so-called contextual elements ‘into’ which reforms or innovations are put are actually mutually constituted through the actions of such individuals.

4.2 Alignment

Alignment is the dimension in Wenger’s (2000) model through which local activities are made congruent with wider organisational and political processes and policies. It involves the mutual process of co-ordinating perspectives, interpretations and activities and is related to imagination and identity, in seeing oneself and the community as part of the ‘big picture’. Alignment may be articulated through the subject department as a locus between institutional and disciplinary forms of knowledge and the ‘local’ conversations which mediate this. An example would be discussions and negotiations relating to National Curriculum criteria, mark-schemes and moderation.

The importance of subject affiliation, being mentored within the department or team, and observing and becoming part of the everyday world of the workplace are all elements in joining a school as a community of practice (McGregor, 2003b). Students and new staff contribute to a community of practice through being shown routines, guidelines, outlines of roles and responsibilities and so on. This helps to create a joint imagination through articulating who ‘we’ are and who ‘we’ might like to be. As

described in chapter six, supported by handbooks, mentoring and regular meetings, the trainees in the science department at Kingbourn had powerful access to the community of practice through the physical proximity of the office. This enabled the seeking of assistance or discussion of issues as a normal and reciprocal element of everyday interaction.

4.3 Imagination

Imagination requires the construction of a self-image for the community of practice to enable reflection and orientation to the influences of the wider community. Leadership plays an important role in interpreting and constructing an image of the community, a self-representation, through stories, symbols and statements. In this way common interests are identified and beliefs and values are revisited and emphasised. At Kingbourn the stated values of the school were regularly revisited and discussed, perhaps modified and then published as a pamphlet given to all members of the school as a means of their reaffirmation .

'Even though we are a large group - we represent a community of people. There are culturally binding aspects, histories, beliefs etc. which all understand as they are articulating them. A community with shared aspirations. Working with one another outside the 'comfort zone' is synergistically powerful. To share, engage, actively seek to give each other the opportunity to collaborate' (Jonathan Dexter, original head, Kingbourn) (McGregor, 2000a, p.17).

The cross-curricular SIGs were also seen as a means of actively encouraging dialogue about teaching and learning, helping to define a learning agenda. The head believed in

the importance of dispersed leadership, which did not necessarily reflect formal roles, responsibilities or status, and this was enshrined in documents and the flexibility of roles and participation that was encouraged. It should be noted, however, that while concurring with those values, some staff were clear that it was the influence of the head as a transformational leader that created the conditions for this, often through micropolitical activity.

4.4 Boundaries

In Wenger's (2000) conception of communities of practice, learning and the potential for innovation lies in the configuration of strong core practices and active boundary processes where practice is a combination of participation, negotiation and reification (Bennett, 2001). An important element of boundary construction in communities of practice is co-ordinating opportunities for joint activities such as problem solving, recognising multiple perspectives and resolving difference. This is most likely to occur in a situation where professional identity, social interaction, school organisation and pedagogic interests intersect, as in the nexus of the subject department. Wise (2003) identified evidence of a community of practice in most of the departments or subject areas she studied.

In the CRC study, Talbert and Siskin found that subject departments are core teaching contexts that vary enormously in their professional cultures (Talbert, 1995; Siskin, 1995; Grossman & Stodolski, 1999). The strength and character of what they term professional community heavily mediated effects of institutional conditions and wider education reforms, and changes on teachers' worklives. Talbert points out that strong professional community need not necessarily mean strong boundaries, as established

department cultures can function as more of an open system. This was demonstrated by the Kingbourn science curriculum area where they actually reported lower than the school average interactions within the department, with more cross-curricular links, including with teachers in other schools and networks (*Table 6*).

	Number of respondents	% Within the department	% Including ITT
Science Kingbourn	15	35.9	45.5
Kingbourn Total	92	40.9	49.6
Brythnoth Total	28	45.0	47.0
Total	120	41.8	49.5

Table 6 Comparison of total % interactions within the Kingbourn Science department – % within the department refers to the locations specifically identified - Individuals within the department, Department meetings and Department office

If subcultures such as departments have strong relational inter- and intra-linkages, they may provide a home for, and reinforce, reciprocal knowledge, creating aspects of communities of practice. However, if they are subcultures within organisational structures which fail to create learning and the making of meaning, they will not be communities of practice. This is also the case if they are closed and resistant to learning from other areas, whether because of the strength of collaboration or individualism within them.

The Kingbourn science department, while being highly collaborative also had strong links throughout and beyond the school, for example with higher education institutions, the Science Association and the SIGs. This is demonstrated by the higher proportion

	Science Kingbourn % interactions	Total all % interactions
ITT students	9.6	7.7
Learning support assistants	5.2	4.8
Teachers in other schools/networks	4.2	2.7
Staff meeting	4.1	2.9
Senior staff	3.9	2.5
Cross-curricular	4.9	3.3
Year group	6.9	6.8

Table 7 Locations where Science reports higher % interactions than Kingbourn overall

of interactions beyond the immediate department as shown in Table 7. It is at the boundary between subcultures or communities of practice that particular technologies or objects, such as the 'reified' curriculum, research findings or aims of the school, can become the focus for new understandings and practices, particularly when accompanied by a 'broker'.

Brokers, whose influence is often informal, transact knowledge and practice from other communities. Greg Parfitt and Delphine Proudfoot, although they had responsibility in the science department, were examples of such 'boundary workers', able to move from one community of practice to another, particularly in relation to CASE, transacting knowledge in the process. They were aware that the generative tensions created at the boundaries of communities of practice require an intersection of interests, and something to interact about or to evaluate innovation in relation to, and hence focused on the development and embedding of the cognitive acceleration work in different subject areas. Communities such as the science department and SIGs develop a wider

repertoire or range of understanding of practice (knowing what they need to know), and thus have more opportunities for making links between groupings. This was a principle which underlay the collaborative working encouraged by the head at Kingbourn.

5.0 Explanatory power of communities of practice

The concept of communities of practice developing situated learning has considerable utility in adding to an explanation of patterns of association amongst teachers (and other staff) in secondary schools. Viewing organisations as comprising communities of practice moves the focus away from monolithic cultures and provides conceptual tools for understanding how learning occurs through a range of associations. Learning as situated in co-participation, rather than the acquisition of propositional knowledge, allows sensitivity to informal structures as well as providing explanations for differences between departments in secondary schools. In this and the previous study, while the department meeting was identified as an important location for joint work, occasions such as staff meetings and performance review were not.

Organisational units such as subject departments do not exist in isolation and the study of subcultures is important in considering differences between them (Ball & Lacey, 1995; Grossman & Stodolski, 1999; Paechter, 1995; Talbert, 1995). However, it is important to question the extent to which such subcultures are structurally defined, and communities of practice give us greater theoretical purchase, through a participation framework, on what happens at the multiple boundaries between such groupings. It should also be noted that communities of practice are not necessarily positive and may indeed be the locus of reproduction of counter-productive patterns and prejudices

(Little, 2002; Wenger *et al.*, 2002), which was likely to be the case with some groups at Brythnoth.

In that people belong to various communities of practice which overlap but may not be contiguous with organisational units or subcultures, the model potentially provides one explanation for the differential capacity for change and improvement of different subject departments - which exist in the position between the whole-school world of the staffroom and the comparatively individual world of the classroom (albeit with reciprocal influences between them). It also suggests further dimensions to the notion of collegiality as powerful joint work, rather than a more instrumental collaboration.

In later formulations of the theory, Wenger (Wenger & Snyder 2000) develops the idea that new knowledge as well as learning is produced through interactions, and that through diversity there are creative tensions. The cultural perspective, and much school improvement literature, assumes that pre-existing beliefs and values are unproblematically congruent and commonly held in 'collaborative cultures'. Hosking (1999) suggests, from a social constructivist viewpoint, that (American) social psychology paradigms from which this is derived have tended to ignore differences in beliefs and values within groups and the generative tensions of conflicts of value inherent in the ongoing construction of social settings. Instead, it is testing and negotiating common values through joint practice and learning which strengthens communities of practice, which are then constantly made and remade through performance.

There is a difference between learning from experience (the need to belong) and learning something *new* together - creating new knowledge (in response to

contradictions). Previous typologies differentiated between strong and weak forms of association and collaborative or individualistic cultures, but don't go far enough in exploring the assemblage of resources available through daily participation in communities of practice. This was foregrounded by McLaughlin (1990) who, on revisiting the important Rand Change Study, noted that an important subsequent insight was that there was not a black box of local beliefs about educational change, but rather than centralised policy, (local) *implementation* dominated outcome. It had not been recognised that belief can follow practice, which then highlighted the importance of external change agents and interlocking social relations.

In relation to the empirical work of this study, the concept of communities of practice provides at least a partial framework and conceptual tools for exploring the situated workplace learning, which is likely to take place through the meshing of formal and informal interactions which characterised the science department at Kingbourn, with conceptual tools to help understand how learning occurs and the relationship to the tacit knowledge of teachers. Learning may be seen to be distributed among co-participants and a product of interaction rather than content. Proposing that learning takes place *through* (rather than *in*) groupings, such as communities of practice, provides a means of highlighting the relational and constructed nature of schools as produced by networks of people, ideas and technologies.

6 0 Power relations

The concept of communities of practice potentially brings together the dimensions of structure, culture and power: *'it provides an analytical approach that simultaneously accommodates the uniqueness of schools and the universality of educational systems'* (Harris & Bennett, 2001, p.180). However, while Lave and Wenger (1991) noted that the power relations of the social structure and conditions for legitimacy define the possibilities for learning, a criticism of the early models of communities of practice are that they lack a developed theorisation of power and its operation (Fox, 2000). Lave and Wenger acknowledged that *'unequal relations of power must be included more systematically in our analysis'* (Lave & Wenger, 1991, p.42). But although in later work Wenger acknowledges the importance of distributed and shared leadership, and touches on power as an aspect of identity formation rather than practice per se, he does not unpick the important power relationships crucial in decision-making and negotiation. This would, in education, address for example, some of the issues around the micropolitics of headship (Ball, 1987; Blase, 1998; Busher, 2001; Reay, 1998). This is a major theoretical and practical omission in relation to learning relationships, and hence does not account for the power-geometries of relationships which operate in schools as workplaces (Hodkinson & Hodkinson, 2001).

In thinking about power as actively constituted through space, as immanent as well as hierarchical within an institution, the zoning and arrangement of spatial assemblages of action and location are critical to particular forms of conduct. *'In this line of thinking, different spatial arrangements reflect the possible ways of acting inscribed in different schemas and serve to regulate as well as enable, mobility through them'* (Allen, 1999, p.202). The spatiality of the science department at Kingbourn, with its ecology of

formal and informal meetings, and associations and culture of collaboration, illustrates the employment of different (positive) modalities of power. The key practices through which power seemed to be operating, for example in the Kingbourn science curriculum area, were more lateral (and substantially positive) modalities, such as persuasion (rather than coercion), research and collective testing of ideas (rather than imposition). For example, the negotiation of mutual observation and feedback is quite different in form and content to the monitoring of official forms of surveillance.

These undoubtedly collaborative processes clustering around negotiation represent a different conception of power from the notion of a 'top down' hierarchy. They were enabled through the strong web of social and professional relations which had been built up over time in the proximal heat of the departmental kitchen (office). The use of metaphor is not a chance (or an original) one³⁴ in emphasising the practical, relational and situated aspects of communities of practice, and also the importance of 'belonging' or finding a 'home' where one can test 'half-baked ideas!' (Wenger, 2000). Spatiality and the operation of modalities of power are mutually constituted and expressed through 'concrete practice' which Foucault (1980) identified as resulting from power and knowledge. While communities of practice are generally more fluid and relational forms, it may be possible to distinguish workplace 'communities' such as the science department at Kingbourn which *appear* spatially defined and discrete, although this should not suggest a bounded 'local' setting: this is discussed in the next section.

³⁴ See Huberman (1990) and Gherardi (1999).

7.0 Beyond communities of practice

Lave and Wenger (1991) initially suggest that individuals participate in intrinsically *local*, small-scale communities of practice which help to construct their identities. Nesper (1994) argues that the local nature of the situated learning fails to take account of how such communities are structured, maintained and connected to one another in space-time, focusing on despatialised communities of practice, treated as autonomous rather than situated in 'socio-historic fields.' This resonates with Massey's caveat that attempts to establish boundaries (which form an important dimension in the model) are *'attempts to stabilise the meaning of particular envelopes of space-time'* (Massey 1994, p.5), as a means of constructing the local. Nesper further notes that the social and psychological were integrated in the model only through a narrow conception of the social, limited to a focus on face-to-face interactions taking place in circumscribed settings, thus suggesting that social learning was actually only an intermediate stage to then 'internalising knowledge'. This regresses to the conventional view of knowledge as a possession. Wenger (2000) has now modified the model to take account of electronic communication linking places, people and times which are not physically co-present, and appears to follow Nesper in the notion that identity is a function of multi-membership of communities of practice extending in time and space.

A fundamental issue lies in the spatiality of the communities of practice. Fox (2000) suggests that communities of practice are ways of identifying interstitial communities which are influential in organising work and learning. While this is initially a useful observation, it validates the existence of entities by suggesting that there is something to *be* between. Hence, further dimensions are necessary to spatialise the model (and the operation of power) *'communities' aren't just situated in space and time, they are ways*

of producing and organising space and time and setting up patterns of movement across space-time: they are networks of power' (Nespor, 1994, p.9) (author's emphases). Individuals do not simply move into the pre-existing community in apprentice mode as Lave and Wenger propose but are '*defined, enrolled and mobilised along particular trajectories that move them across places in the network and allow them to move other parts of the world into that network*' (ibid, p.9). In secondary schools particularly, teachers are enmeshed with subject disciplines and the actor-networks on which their field of practice is contingent (Becher, 1989; Nespor, 1994). It is here that communities of practice are working with the conception of context as a container that people enter, rather than as emergent, as dealt with through the spatialities discussed in this thesis.

Hence, a community is composed of heterogeneous and dispersed elements linked together through space-time. Learning then refers to the changes in the spatial and temporal organisation of the networks that we are differently positioned in. Hence, rather than moving from social to internalised ways of knowing, from inter- to intra-psychological experiences, Nespor suggests we move through different spatio-temporal distributions of knowing.

'Drop a ...physicist... on a deserted island without their tools and colleagues and the questions of what they 'know' and in what sense they have 'learned' are rendered moot. Since learning and knowledge are not the properties of individual actors we cannot speak of someone having 'learned' differential equations unless they're moving along a trajectory that at least periodically re-assembles the distributed or networked actor in practice-relevant configurations.' (Nespor, 1994, p.11) (my emphasis).

Practice-relevant configurations will then be the prerequisite actor networks which comprise a community of practice. In the case of the science department, these included the laboratories, procedures for ordering chemicals, the lists, imposed curricula, work-schemes created collaboratively and stored on the computer as well as a wide variety of social interactions. The patterns identified in chapter four illustrated the salience of the department for interactions, as individuals, meetings and an office space. In this way *place* has agency through the social in reassembling practice-relevant configurations but likely to be co-constitutive of practice-based learning and therefore potentially generative of new knowledge.

Gherardi suggests that *'when the locus of knowledge and learning is situated in practice, the focus moves to the social'* (Gherardi, 2000, p.217). As a collective subject and the forms of participation in social practices with knowledge as a social product. *'These views reintroduce to organisation studies the concept of practice as work, which transforms identity, activity and social relations'* (ibid, p. 217). Thus practice articulates spatiality. Identity and practice can be seen as *'functions of on-going interactions with distant elements (animate and inanimate) of networks that have been mobilised along intersecting trajectories'* (Nespor, 1994, p.13). Rather than simply acquiring an identity *within* a community he suggests that:

'Identities are shifting, contested states of networking practices that seek to produce or maintain a certain configuration of social space by excluding or restricting some people and things from participation while recruiting and reconstructing others to fit into the network' (ibid, p.13).

Communities of practice may thus be identified in schools and possibly mapped through social networks. However, when they are cast as an invariant box-like entity which

contains social relations the frame constitutes a displacement of concerns about equity and entitlement, isolating the group or school from wider influences. Thus while self-defined groups may be observed to interact in particular space-time locations across 'boundaries', the influences that construct them are far wider. Little (2002) suggests that practice is usually placed 'in context' but it is potentially more useful to place context in (I would argue *as*) practice. Seeing place as the product and producer of relations is fundamental to this:

'The uniqueness of a place, or a locality, ...is constructed out of particular interactions and mutual articulation of social relations, social processes, experiences and understandings, in a situation of co-presence, but where a large proportion of those relations, experiences and understandings are actually constructed on a far larger scale than we happen to define for that moment as the place itself' (Massey, 1993, p.66).

The following two chapters focus more closely on the science department at Kingbourn as dynamically constructed from such a nexus of influences intersecting as spatiality.

8.0 Conclusion: Spaces of practice

This final section of the chapter proposes that the intrinsic openness of spatiality has important implications for teaching and learning, through identifying collective spaces of debate and action, which are public in that members participate as part of a constitutive community (Brown & Kelly, 2001). Relational ontologies such as those described in this chapter identify learning as the result of relationship. If knowledge is situated 'within' and constitutive of the community then we need more connections to

make use of it - to re-place knowledge. Identifying those spaces of association in which people feel free to express themselves and 'act in concert' is an important analytical step, but potentially has profound implications for the ways that schools are structured, for both staff and pupils.

Arendt describes collaborative, enabling power which has the aim of association (Allen, 1999). This is different to a Foucauldian (1978) conception of power in that it springs neither from resistance or domination, but aims to form '*a common will which enriches public life, and in so doing reaps benefits for all involved*' through political, ethical and moral concerns (Allen, 1999, p.211). This has resonances with Fielding's (1999a) descriptions of community as people coming together and creating tasks and spaces deliberately to make meaning and relationship together. Benhabib describes Arendt's public spaces: '*sites of power, of common action co-ordinated through speech and persuasion*' (Benhabib, 1998, p.70), and argues that work can become a locus of public space if it is interrogated from the standpoint of asymmetrical power relations, as suggested here. The attentiveness to issues of power expressed through the collaborative SIGs encouraged at Kingbourn together with the advocacy of distributed leadership provided conditions likely to be more facilitative of such spaces, evidenced by the science department.

Here we may also see the plaiting together of loose ties (Latour, 1997) flowing from mutually respecting and trusting relationships of support, facilitation and trust which allow and enable disputation (rather than imposed technicist and masculinist discourses flowing from education policy). We must, however, remember that such discourses are the products of social and cultural (communities of) practices rather than representations of any 'reality'. Stronach *et al.* highlight the contrast between audit cultures in

education and those emphasising professional commitment – *‘economies of performance rather than ecologies of practice’* where the latter refers mainly to ‘craft knowledge’ - *‘individual and collective experiences, beliefs and practices that professionals accumulate in learning and performing their roles’* (Stronach *et al.*, 2003, p.111). The metaphor of ecology is a productive one in suggesting the re-placing of learning and knowledge creation in schools, not as the reified possession of those ‘in power’ but created through forms of association, which articulate community.

Chapter Six - The Department as Nexus

1.0 Introduction

The department forms the commonest administrative and organisational unit within the majority of secondary schools in the UK and elsewhere in the world. It is so ubiquitous that until relatively recently, it has been taken for granted that teachers are classified and divided along largely subject-based lines and grouped physically and organisationally within departments and across years while pupils are usually organised by year cohort across subjects.

Rather than a bounded and fixed entity, in this chapter, the subject department is explored as an intersection, a node or nexus of relations, in the constellation of interactions and practices that continually make and remake the school. In the understanding of spatiality employed here, rather than being an arena *within* which social relations take place, space is constituted *through* the social. Space is thus itself enacted (Massey, 1999a). This enables us to move beyond a focus on a department as an entity in space or the way the spatial influences interactions between teachers, to view the department *as* space-time.

The limitations of existing frames of analysis in education will be examined and the department explored through the interaction between the social and spatial, drawing particularly on empirical work from Kingbourn. In focusing on a specific department, the notions of communities of practice and actor-networks are used to foreground the department as a '*practice-relevant configuration*' (Nespor, 1994, p.9) of the material and social conditions needed for teaching and learning. I argue that the department is

the locus of professional community for the majority of teachers in secondary schools. It is an intersection of institutional organisational patterns, subject cultures and controls with complex links extending in the wider educational environment and society (Talbert, 1995). The chapter ends by suggesting that rather than simply being the product of an individual in front of a class, teaching is a collective accomplishment of relationships between colleagues, technologies and wider influences.

2.0 Spatiality and the department as nexus

In the formulation of spatiality employed here, space is relational, it is never finished or closed. It is not a '*completed simultaneity*' (Massey, 1999a, p.28) where all connections are already in existence, but is the intersection (or not) of multiple trajectories and therefore generative of the new and the possible. Massey argues for seeing spatiality as space-time (Edwards & Usher, 2000) with places, like spaces, constructed from relations, always in the process of becoming. Hence an entity such as a department in school is constructed from an intersection of influences. The spatiality of the department is thus a unique and dynamic juxtaposition of relations connected to flows of influence extending in space-time and actively constructed as an emergent context.

Located in a particular 'middle ground' of the education system between primary/elementary schools and colleges or universities, secondary schools negotiate tensions between learner- or subject-centred teaching cultures, and between the whole school or subject disciplines as the location of professional community (McLaughlin & Talbert, 2001). The subject department emerges as a stable and critical, if under-researched, feature of secondary schools in a variety of national studies. Until the 1990s there was:

'remarkably little in the educational research literature, either empirical or theoretical, to help frame teaching as the work of subject specialists, or high schools as departmentalised organisations - and even fewer attempts to seriously consider the relationship between the two' (Siskin & Little, 1995, p.4).

Research has tended to focus on either the curriculum subject and the way in which the construction and content affects teachers' work, or the department as a unit of organisation (Grossman & Stodolski, 1999; Harris *et al.*, 1995). The department is also an undertheorised area of research, falling between the large-scale quantitative surveys and qualitative case studies, between the macro scale perspective of the policy landscape and the micro-scale of the everyday experiences of teachers and pupils. However, this is not to suggest that departments are *'interstitial spaces'* (Bhaba, 1994) somehow between other things; rather they are a significant intersection of trajectories of influence and power, linking with networks of practice extensive in space-time.

The boundaries of the department are conventionally defined by organisation and structure, including formal roles and responsibilities and the curriculum. Naming, architecture and physical proximity are also invoked in delineating 'a department'. However, theoretical frames relating to administration, the construction of disciplinary knowledge and the professional identities of teachers are separately inadequate to trace this locus of intersecting influences, activities and knowledge (Siskin & Little, 1995). In a spatial formulation, departments are a fundamental and socially constructed location for teachers' work and identities. They are heterogeneous *'dynamic structures, challenged in subtle ways everyday'* (Gutierrez, 1998, p.99).

There is a growing interest in the department as a crucial arena for workplace collaboration and learning, and as a mediator of school level and national ‘external’ influences where generic policies are encountered and operationalised. Departments are identified as potentially the ‘missing link’ in school improvement (Harris, 2001b). While broad forces influence the scope and organisation of the school curriculum, departments generally have a high degree of control over course construction, employment of staff and assignation to groups. Through immediate everyday interactions they therefore continually shape what it means to be a teacher in a particular school and influence pupils’ experiences and learning in the classroom.

3.0 Existing research

The creation of the comprehensive school in the UK introduced new and contested relationships and perspectives. This stimulated research into curriculum subjects and the relationship with school organisation, which has only relatively recently been taken up in North America (Siskin, 1994). Young (1971) demonstrated that the construction of the curriculum was fundamental to the structuring and reproduction of social relations, and that within schools, curriculum areas were accorded variable power and status in relation to wider social structures and constructions of knowledge.

In the late 1970s and early 1980s in Britain, historical and ethnographic research in education focused on the department, classroom and teacher, and particularly the manifestation of the school subject as created and maintained through micropolitical activity (Ball, 1981, 1984; Burgess, 1983; Goodson, 1988). Secondary school departments were shown to be a major focus of such activity, where the interests of competing subject groups often lay in maintaining their distinct identities in relation to

other groups in order to gain status and resources, such as physical space, specialist staff or timetable 'space' (Ball, 1987; Hoyle, 1988; Paechter, 1995).

Work into subject subcultures has emphasised the salience of the subject department for teachers and teaching, as the professional community of greatest significance (Little, 1993, McLaughlin, 1993, McLaughlin & Talbert, 1990, Siskin, 1994). It may provide teachers with:

'A teaching environment which is intellectually rich, socially congenial, professionally supportive, committed to the success of its students and organisationally positioned to secure human and material resources' (Siskin & Little, 1995a, p.1).

But departments have also been shown to be potentially self-referential, exclusive and competitive enclaves of professional self-interest, as described by Hargreaves in his depiction of 'cosy collaboration' and balkanised teacher cultures (Hargreaves, 1994; Hargreaves & Macmillan, 1995).

The subject department forms a primary reference group for many teachers, for whom the nature and discourse of the (academic) subject matter provides a focus of identity relating back to their university education and 'teacher training'.³⁵ In a study of academic disciplines in universities, Becher (1989) illustrated that the ways in which particular groups of academics organise their professional lives are intimately related to the intellectual tasks on which they are engaged. Grossman and Stodoloski (1999)

³⁵ A study of PGCE entrants (n=435) to the profession in the UK showed that a significant reason for choosing teaching as a career was to sustain, share and use their (academic) knowledge. The choice of the secondary sector was closely related to academic concerns such as maintaining an interest in a degree subject or specialising (Reid & Caldwell, 1997).

indicated how the content of the curriculum influences the way teachers conceptualise and teach 'their subjects' and how generic policies may be quite differently interpreted and put into practice in different curriculum areas.³⁶

The large-scale surveys of teacher workplace and professional community in the USA, and school effectiveness in the UK, have concentrated on school-level conditions and effects (Rosenholz, 1989; Louis & Kruse, 1995; Goldstein, 1997; Sammons *et al.*, 1995), initially ignoring departments as having too small a sample size. Qualitative studies have tended to focus on either the generic occupation of teaching or the individual in the classroom (McLaughlin & Talbert, 1990). The findings of this study suggest that the bifurcation of these foci obscures the significance of different groupings and networks within and between schools.

Work on school culture has explored subject subcultures which are created and maintained through the intersection of teacher identity, socialisation, and status within a hierarchy of subjects/knowledge (Paechter, 2000; Prosser, 1999; Ball, 1984). Department cultures partly represent the enacted view, beliefs and values of the teachers and support staff about what it means to teach students in that subject, evidenced through agreed practice and policies, artefacts and displays, rituals, ceremonies and relationships, and a common language (Bennett, 2001). Ball and Lacey emphasised that they are not, however, homogeneous units:

'Rather than being a cypher of subject knowledge for the teacher, the subject department is in itself an arena of competition in which individual social

³⁶ In a theoretically sophisticated ethnographic account of two undergraduate courses, Nespor (1994) illustrates how students are mobilised into core disciplines such as physics, to become part of durable and extensive networks of power. The programmes reconfigure the students' temporal and spatial practices to connect them to the discipline.

strategies are organised on the basis of biography, latent culture and situational constraints. It is an arena of competing paradigms and definitions, defining and defending boundaries externally' (Ball & Lacey, 1995, p.100).

They explored departments as locations of struggle, where what counted as a particular subject was the outcome of micro-political and ideological dispute: *'Subjects are not monoliths, rather they are contextual realisations'* (Ball & Lacey, 1995, p.95). They argued however, that departments continue to sustain teacher identities and commitments even when there are alternative subject paradigms supporting distinctive subcommunities within them. This micropolitical perspective examines the constellation of relations which constitute departments, but lacks an explicitly spatial dimension.

The gendered power relations which reside in such disputations constructing curriculum and organisational change have commonly been ignored, but are also beginning to be explored in relation to 'reform' (Coffey & Delamont, 2000; Datnow, 1998; Paechter, 1998a). Paechter notes that while disputes over subjects are *'fundamentally concerned with power'* (Paechter, 2000, p.17), power has been relatively undertheorised in research on curriculum change. This is equally applicable to research on departments as administrative units, although there is considerable current interest in exploring the nature of power relations through different conceptions of leadership (Jackson, 2000; Sergiovanni, 2001; Bennett & Anderson, 2003). Developing work on communities of practice and workplace learning outlined in chapters four and five suggests departments are potent and dynamic sites for the continual negotiation and reframing of subject knowledge and pedagogy (Bennett & Anderson, 2003; Little, 2002; Wise, 2003).

In this study there was general agreement among teachers that there was an increasing emphasis on subject teaching. A major effect of the National Curriculum has been to re-

emphasise the organisation of secondary schools into subject departments and to encourage greater subject specialisation in primary schools. This is paralleled by greater controls over teacher training and increasing requirements for credentials, including post-graduate qualifications. The induction of trainees as 'legitimate peripheral participants' in subject departments was explored in chapter five in relation to the creation of communities of practices.

The department as a 'context' for school reform has been explored through the work of Little and Siskin (1995b), Hargreaves (1992b, 1994) and Hannay (Hannay & Lum, 2000, Hannay & Ross, 1999). Research on school improvement and school effectiveness indicates the salience of change at different levels within a school, and studies have provided considerable evidence that variations between schools ('in school effectiveness') can be attributed substantially to variations *within* schools (Sammons *et al.*, 1997), and that a focus at the department level can be most productive for improving conditions within the school (Hammond, 2000; Harris, 2001b). This follows Huberman:

'I would rather look to the department as the unit of collaborative planning and execution in a secondary school... This is where people have concrete things to tell one another and where the contexts of instruction actually overlap' (Huberman, 1990, p.11).

Thus the department is a fruitful location to research the microtexture of relations which mediate change. This is significant if one wishes findings to inform educational policy decisions at a variety of levels within the system – arguably the point of educational research (Bassey, 1995).

4.0 The department as constituted spatially

In this section, I will follow previous structures and move through orthodox understandings of space as physical, social and organisational, finally discussing how space is constituted through the social as spatiality. Conventionally, subject classrooms are architecturally grouped, and teachers may spend significant and substantial time with colleagues in meetings, particularly in department or faculty offices. *‘For these teachers, private quarters are in communal and public space’* (Siskin, 1991, p.142).

Departments can provide teachers with the professional support, trust and openness which encourages the synergy of strong forms of collaborative joint work, where new learning and knowledge are created. Siskin identifies the inter-related and defining components of the department as the administrative division, the subject and the people, interacting at different levels, times and locations.

‘Subject departments are where the departmental organisation of schools, the disciplinary organisation of knowledge and the professional lives of teachers intersect in ways which are both powerful and problematic’ (Siskin & Little, 1995a, p.17).

As described in the previous chapter, the model of communities of practice as developed by Lave and Wenger (1991) derives from the notion of situated learning, as participation rather than through acquisition. If new practice is created by members of a group *through* the making of meaning together, this reciprocally brings into existence the grouping or community. The spatiality of the practices in which members participate is a particular practice-relevant configuration (Nespor 1994) which defines the possibilities for learning to ‘take place’ (or not). In common with ‘the classroom’ or ‘the

staffroom', 'the department' is a powerful practice-relevant configuration within the school.

4.1 Physical proximity

The two schools in the study, like the majority in the UK, have significant and taken-for-granted common features although differences exist, for example in the aim espoused by the Kingbourn management of developing a more flexible and cross-curricular way of staff working together. Teachers and support staff in both schools cited physical closeness or proximity as important in contributing to the sense of 'being in a department'. Maps of the schools (*Figures 5 & 10 a, Chapter Three*) show a typical pattern of clustering of classrooms and designation of areas.

At Kingbourn, attention was overtly paid to enhancing the physical environment; a policy on display work existed and was supported through resources, and many areas used the corridor areas to showcase student artwork. The head of geography clearly had designs on raising the profile of the subject and expanding its territory. The wall areas outside the classrooms were covered with collages of maps, photographs and information. The conversation below illustrates the interaction of the space and curriculum competition.

'I want to use the space outside the block more. For example, on the little hill, build a river. I 'floated' [JMc groans] the idea with the deputy. It would turn it into 'our space'. Take it over a bit more. In a school this size if you are a small fish you have to be a bright fish and get noticed. It would help with practical work' (Brian Tuckman, head of geography, Kingbourn).

The geography office (*Figure 43*) was well used by staff and also identified as ‘home’ in Sheila James’ mental map (*Figure 7*) and as a heart on that of Jane Casey (*Figure 36*). The room next door had been converted into a resource area with computers where staff and pupils could work together ‘outside’ the classroom.



Figure 43
The
geography
office,
Kingbourn

The map (*Figure 5*) shows that Brythnoth similarly had department staff ‘bases’, but these more frequently operated to different effect. While some departments such as maths and art valued their small rooms with their coffee-making facilities and photos of past events on the wall, the majority of department offices were not seen as a very positive influence for the school as a whole, as previously noted by Martin Miller. In the earlier study the head of music described the dysfunctional nature of the proximity afforded by such spaces for some departments:

‘No one goes into the staffroom to sit for lunch and so departments sit together, sometimes in their offices, to moan and whinge and get upset. And all they can think of is the lessons they’ve just taught, not seeing other people who have just

done a really positive good thing, not hearing about other things' (Beaula Frost, head of music, Brythnoth), (McGregor, 2000b, p.17).

In chapter four it was noted that a high frequency of interaction in negative circumstances diminishes commitment and paradoxically leads to increased isolation (Little, 1990b), which seemed to happen in several of the Brythnoth departments.

4.2 Staffing and social space

The social space of the department is framed by the staffing and organisational structure of the school and it is instructive to explore how the institution describes them in its handbook. As Shields notes: *'Naming is one moment at which the elements of spatialization - habitual spatial practices, representations of the world and a spatial, imaginary geography - are apparent'* (Shields, 1997, p.189). The use of terms such as *department* and *curriculum area* are thus significant indicators of how the school approaches issues around the compartmentalisation of power/knowledge.

In the academic year 2000-2001 the staff of Brythnoth comprised 60 teachers, of whom 34 were women. Women held two out of the eight posts on the *'Senior Leadership Team'* (renamed from *'Senior Management Team'*, although in fact no-one habitually used the new terminology), including the head. During the time of the study, membership of this group was an important issue in relation to the status of the head of the sixth form. The staffing list in the handbook divided the rest of the staff into *Pastoral, Subject-based, Learning and Student support and Non-teaching staff*. Of the 11 *Heads of Department* four were female (languages, music, business studies and

English)³⁷, while four of the six heads of year were female. This represents a fairly typical gender balance in English secondary schools both in proportions and role orientation (Coleman, 1996; Hall, 1996). Within this department structure there were seven teachers who were ‘*in charge*’ of particular curriculum areas e.g. R.E., geography, sociology, home economics and German.

Kingbourn had made a conscious decision to create ‘*Curriculum Area Teams*’, each with an area leader reflecting a long-standing espoused commitment to cross-curricular working which was fundamental to the *Extended Senior Team’s* (EST) development strategy. The deputy head³⁸ commented:

‘The school very early on in its life created curriculum area structures, to move away from this idea of being 40 different heads of department. We wanted to actually break down subject boundaries, we wanted teachers to work collectively’ (Christopher Jordan, deputy head, Kingbourn).

Of the leadership teams, two of the seven were female, including one of the joint acting heads at the time of the study. There were nine *Curriculum Area Teams*, including *Pastoral* with two-thirds of the *Area Leaders* being male. These areas comprised *technology, P.E., English, humanities, mathematics, modern languages, science and expressive arts*. Within each area, there were a number of ‘*heads*’ (of subject), for example, in expressive arts, there was a head of art, of media and of drama, with three further teachers ‘*in charge of*’ music and dance. These titles reflect differences in the role status and responsibility of the staff and thence power relations between members

³⁷ The remaining head of department roles being mathematics, science, technology, humanities, drama, music and art.

³⁸ During the study, the head referred to here, Jonathan Dexter, left and the school was run by two joint-acting heads, one of whom was the deputy quoted here, who was interviewed after the arrival of the new head, Berwick Patterson.

of a curriculum area and within the school as a whole. Six *Cross-curricular Co-ordinators* e.g. *ICT, Community Director*, were also identified.

4.3 Hierarchy of status in the curriculum

Teachers in both schools were well aware of what they experienced as a hierarchy of subject status. Those who discussed this seemed clear about the position of their subject in relation to externally generated pressures such as the National Curriculum, or internal pulls like the specialist status of Kingbourn.

'I think that knowledge is hierarchical, depending on whichever economic structure is influencing the time, science, maths and English are now seen as being the key. So there is a power relationship within schools in terms of the subject disciplines. Art always occupies funny territory because it's seen as being useless, not subscribing to rules, being very maverick but essential. Often the school is judged by its artwork as to whether it's a good school or a bad school, you know? Most head teachers see it as somewhere between culturally sound, as a civilising influence and good PR and that's the way I've always felt it's been perceived' (Lucy Capelli, head of art, Kingbourn).

The tensions surrounding such hierarchies were particularly evident in the humanities curriculum area at Kingbourn:

'There are the National Curriculum core subjects. Every student has to do maths/English/science, also ICT. The next in the pecking order is media/expressive arts. The college was given money for this. Every student has to do expressive arts. P.E. is quite important as they represent the school outside, as does music. If you work your way down we are in the third tier of

areas, geography and history etc. It is inevitably like that. We are a small fish in a big pond' (Brian Tuckman, head of geography, Kingbourn).

The competition for students, particularly in years ten and eleven when they are able to choose certain 'options' beyond the core National Curriculum subjects, has an influence on relationships between and within departments. At Kingbourn this was cited as one of the reasons that the humanities curriculum area team did not really exist beyond the handbook or infrequent meetings. Although potentially a '*federal department*' (Busher & Blease, 2000, p.101) in the same form as science or expressive arts, both of which had cohesive identities, the humanities curriculum area operated largely through its constituent parts. Two heads of department commented:

'It is difficult with dispersed areas. There is sociology and philosophy in the sixth form, history and R.E. in one block and geography in another block. It is geographically dispersed. At GCSE geography and history are competing as option subjects. 'Thrown into the pit of options'. That competition leads to uneasiness' (Brian Tuckman, head of geography, Kingbourn).

'I feel we [humanities] are unique in that we are three separate disciplines. science, languages and expressive arts are more naturally an area. The trouble is that history and geography are in competition with each other for students. It is also a very big area, there are a lot of staff and so we don't have many whole area meetings. Martin Pryke was given responsibility for head of area but he is so busy. We are very independent of each other, though we do work on some projects, like block week. A lot of staff also have other responsibilities as they are an experienced staff' (Karina Leathwood, head of R.E., Kingbourn).

The dispersed and fragmented spatiality of the department was represented on two of the mental maps showing that teacher identification was with the subject department such as geography or sociology, rather than the curriculum area, (which was the case in science).

4.4. Locating workplace interactions

The dominance of the department or curriculum area as a location for interaction in the study schools was established in chapter four. For every type of association, individuals within the department were ranked first. Without exception, individuals within the department were also cited as the primary location of the strong forms of joint work or critical practices of adaptability. The department meeting was cited as the next most important 'location' (*Figure 34 & Appendices XI - XII*). In both schools, the importance of the department office was emphasised, confirming it as the major *place* for interaction of all kinds, whether explicitly social talk or strong forms of collaborative work such as joint planning in department meetings. Having established this element of the spatiality of the school as workplace the next question was to ask 'How, then is space constituted through the social in constructing the department?'

5.0 The spatiality of the department

To explore spatiality as '*the social production and meaning of space*' (McDowell & Sharp, 1999, p.261), the subjective meanings teachers attached to spaces including the department were elicited by a variety of methods, as volunteers photographed or created drawings or 'mental maps' of their workplace. The department was variously represented as 'home', and associated with positive feelings through symbols such as hearts, sighs of contentment or inclusion in a 'happy net' (*Figures 2b, 44 & 45*). This echoes Little's finding that: '*At their strongest, subject departments form a powerful intellectual, social and political home for teachers*' (Little, 1995, p.185). However, as Siskin (1991) points out, a house is not necessarily a home and some teachers in the study found themselves in close physical proximity to people they fundamentally didn't get on with, for example in the Brythnoth science department.

Selected other curriculum areas/departments were generally shown on the mental maps, but often less positively. For instance, the representations of the Coulsdon Tower at Brythnoth (which contained the English and modern languages departments) showed the stairs (*Figures 2b & 42*), and indicated unpleasant experiences as exemplified by Robert Rawlinson's 'zone of irritation', (head of science, Brythnoth). Jane Casey, a geographer at Kingbourn showed the science department as a person '*with their nose in the air*' (*Figure 36*). In both schools, the sixth form, with its own purpose-built separate block, was represented positively, although Jane Casey labelled the Kingbourn building '*the 'crematorium'*' (due to its shape) – '*full of men!*'

Figure 44
Mental map –
Toni Bridges,
art teacher,
Brythnoth

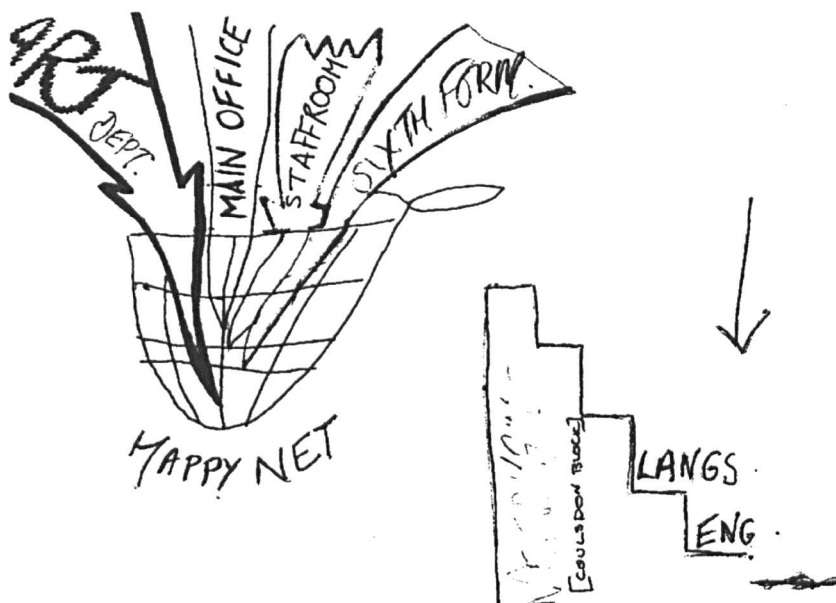
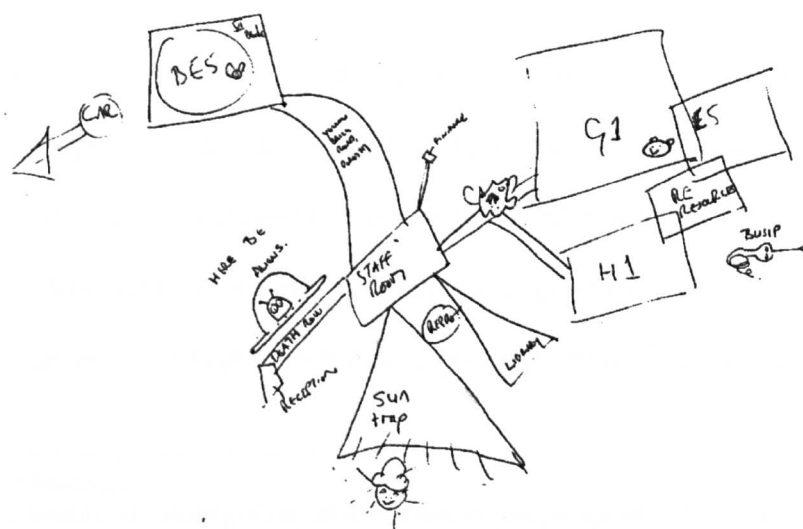


Figure 45
Mental map
Colin James,
Sociology
teacher,
Brythnoth



These teachers used the drawing process to describe often-emotional reactions to other areas, which were shown as separate, though not always bounded. This affective dimension is explored by Hargreaves (*forthcoming*) developing earlier work on forms of collaboration and collegiality through identifying 'emotional geographies'. He defines these as:

'The spatial and experiential patterns of closeness and/or distance in human interactions and relationship that help create, configure and colour the feelings and emotions we experience about ourselves, our world and each other' (Hargreaves, *forthcoming*).

He goes on to identify six other geographies³⁹ as significant dimensions of teachers' experiences in schools, which have an important effect on working patterns and relationships but could be articulated substantially through spatiality.

6.0 Creating science space

This section focuses on the science department at Kingbourn as a practice-relevant configuration, a juxtaposition of relations which exhibits its own spatiality, thus extending the discussion on the location and constitution of professional communities, collaborative cultures and communities of practice (variously defined) from the last two chapters. This highlights the articulation of physical and social space through relations,

³⁹ These are:

Personal - delineating closeness or distance in personal spaces of relationships

Cultural - where differences of race, culture, gender etc can create distance between people

Moral - where people pursue common cause or are defensive about their own purposes

Professional - definitions and norms of professionalism that either set colleagues apart or open them up to exploring issues

Political - where differences of power and status can distort interpersonal communication or empower others

Physical geographies of time and space, which create proximity for the development of relationships or reduce such relationships to episodic interactions.

which create an emergent context for association and learning (McGregor, 2003c). The science department was perceived in the school as cohesive and successful, but rather separate from the whole staff. This situation was embodied by attitudes to the use of the science workroom/office/marking room in which social and work practices were embedded.

'The main [science] office is what we call our staffroom. We definitely use it for socialising at break and lunchtime, there will be many there. During the working day some staff will work there. There are 20 members of the department though and we don't have enough space. Some will take their work and hide away. People think science is isolationist, we stick in the department but we have done collaborative work. Going over at break [to the main staffroom] is less practical as you have to check the equipment coming up for the next lesson. At lunch we also have students back, especially at this time of year, to catch up with work, also for disciplinary reasons' (Beatrice Meredith, science teacher, Kingbourn).

As at Brythnoth, physical distance and pressure on time were cited as a reason for separateness, although this was a department with a reputation for highly collaborative working.

The head, Jonathan Dexter, was clear that the focus for the development of professional community should be the whole school. He felt strongly that:

'The primary unit of improvement must be the school. If we are to make a difference for the child it must be the school, as they have a random passage through it - the occasional inspirational classroom is not enough. It is not a hierarchy of class to school. The larger group of staff is more important.'

He emphasised in meetings, speeches and policy documents that collaboration was articulated through actively seeking to forge common understandings and values, particularly across subject or department boundaries. This accorded with his view, often voiced as a diagnostic question in job interviews, that staff should be teachers of pupils rather than teachers of subjects. An important aspect of this vision was the development of the cross-curricular SIGs, which came to involve the whole staff. The department was identified by him as a 'comfort zone' which might lead to group think and 'cosy collaboration', although he increasingly talked of a multi-cultural approach. He did not therefore support the wishes and practice of the teachers and support staff in the science department to gather in their tiny room at break time rather than coming over to the staff room, and actively and openly resisted requests from them to enlarge the physical space.

The assistant head and bursar at Kingbourn was explicit in his use and manipulation of physical space and during the time over which I visited the school, the staffroom was remodelled with definite aims to impact on staff relationships and working practices. Stephen Kendall had a background in design as a technology teacher and felt he had a *'knowledge and background of space and people'*. He was well aware of the role of space in influencing the school culture:

'When I first came here departments had their own areas and that's where you went. The previous head was reasonably happy with that and the staff room wasn't an enormously popular place. Jonathan's view when he first became head, and he was agitating for it when he was deputy, was that he wanted the staff room to be the focus of everybody's meeting. He wanted people out of departments' (Stephen Kendall, bursar, Kingbourn).

Hence there was a conscious series of decisions to manipulate space in order to facilitate the whole staff working together. The EST were clear that they did not want *‘the development of satellite centres all round the school’* (Christopher Jordan, deputy head). On becoming head, Jonathan Dexter had gradually disposed of what had previously been used as department offices, either for teaching space or resources areas, in order to encourage staff to move ‘out of their departments’ and meet in the staffroom. However, he allowed some, such as science, to keep ‘coffee points’ as it was too far to walk to the staffroom at morning break.

The science department (comprising 20-25 people at any given time) thus continued to meet at break time in a very restricted physical space, enjoying a highly collaborative and dynamic environment. Over the last two years, however, the policy regarding department offices/meeting spaces had shifted. The bursar attributed this to increased dialogue and collaboration (however defined) between staff, stimulated by the SIGs and research projects:

‘There became this developing body of researchers that people, actually teachers, shared a lot of information and felt free to talk about teaching. It wasn’t just social time when they were in their department, they were actually talking about teaching and it was a really strong way of developing teacher knowledge and confidence about teaching and learning. And so we gradually eased up a little bit and developed, not social areas for staff, but work areas for staff where they could be social, where they didn’t have to come across here [staffroom] at break time or lunch time and work.

But at the same time, to counteract that fragmentation, we made the staffroom more attractive and served tea and coffee and bacon sandwiches, so we did

draw people together. So if people want social time and they don't want to talk about teaching they don't have to sit in that discussion. And they come in. We made it more social and it's very popular. But at least in free periods departments do have a base now where they can talk about issues' (Stephen Kendall, bursar).

This policy of allowing departments to develop their office space was underway when Jonathan Dexter left in Spring 2000, just after the remodelling of the staffroom and the construction of a new music block. Both P.E. and media arts had been beneficiaries. So this was a conscious manipulation of the physical space and the social relations 'within' it in order to create a particular spatiality - over which the head and senior team had influence *'People have come back in again. We've begun more control on their return'* (Stephen Kendall, bursar).

'We've now got to a point where most departments now have their own space but some of those spaces are quite small and cramped, but it is symbolic of that value and worth as well as trying to create a working environment that people can feel comfortable in' (Christopher Jordan, deputy head).

There was a perception that certain curriculum areas such as science 'worked very well' in spatial terms while others did not.

'Certainly I would say there are subjects that don't have this nucleus effect that a base can give a department. English has its goldfish bowl, it's a tip but it's where you know you can meet and share ideas if you just want an idea, actually deliver something, particularly somebody like me who's working part-time up there. And history would be an example of where it doesn't work. There's no obvious centre, locus, of their work; there is an area but there's nothing like

the goldfish bowl or the science marking room or the maths room or the language base or the P.E. area' (Christopher Jordan, deputy head).

'Languages is very good space and it works very well. The staff spend a lot of time in there talking about various things but if you go in it's a teaching and learning discussion; it's not just social. I think design technology works very well. I get across to the meetings when I can at lunchtime. It isn't a social meeting, it's classrooms and it's kids and schemes of work' (Stephen Kendall, bursar).

At Kingbourn there seemed to be more awareness of the influence of the interaction between physical and social space than at Brythnoth. This echoes the research of Ben Perez *et al.*, (1999) which suggested that teachers in 'high achievement schools' exhibited a greater awareness of the impact and importance of relations in the staff room.

7.0 The science department at Kingbourn as spatially constituted

The spatial constitution of the science department illustrates the department as a knot in a web of relations. The map (*Figure 10a*), shows the technician's 'prep room' and the specialist laboratories seen as crucial to the teaching of science (Nespor, 1994), identified by Siskin (1994) as linked by the gas line. Science and technology shared a block which had been subdivided over the years into a warren of narrow corridors, decorated with posters of famous scientists and astronomy photographs. The school farm was found behind this block and 'belonged' to the department, with the head of biology in charge of agriculture, although the day to day running was done by a farm

manager. During the fieldwork a new calf was born, a source of much pleasure (see noticeboard *Figure 46*). The small science department office or marking room (*Figure 47*) has already been highlighted as a major, if previously contested, site of interaction with a significant overlap with what I suggest might be termed a community of practice. The science curriculum area (comprising chemistry, biology, physics, geology and agriculture/rural studies) was located in the favourable position of being part of the core curriculum in compulsory schooling, thereby having significant advantages in time and resource allocation.

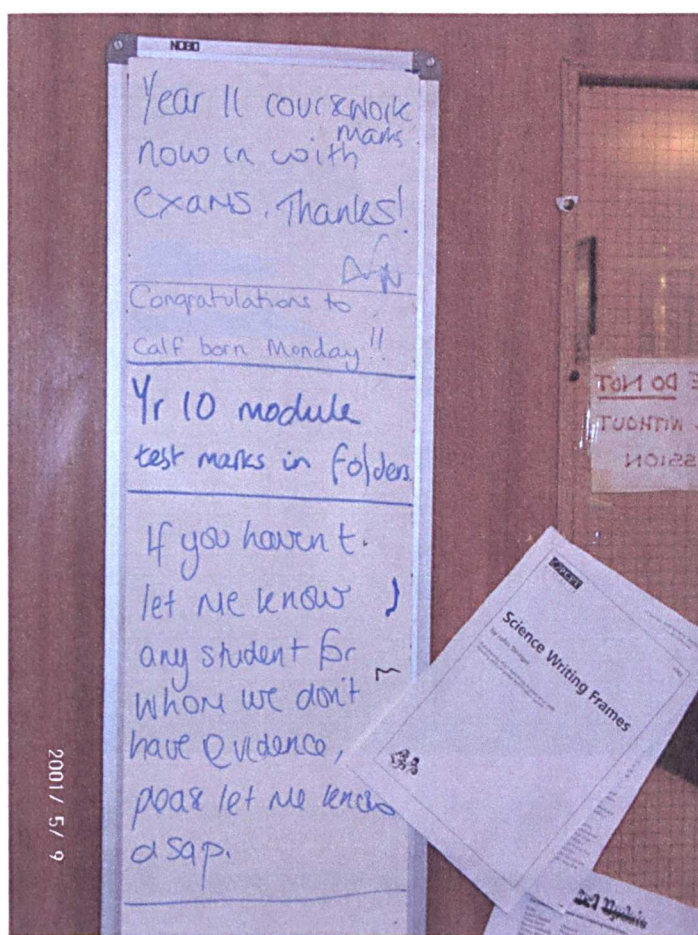


Figure 46
Dayboard in
science
office,
Kingbourn

In years ten and eleven there were the alternative examination routes of single or double science.⁴⁰ For the Sixth form, 'A' levels were offered in physics, chemistry, biology and geology with a GNVQ integrated science. Student examination performance in science at all stages was well above the national averages. The specialist laboratories were clustered in a block abutting the farm and surrounding the technician's 'prep room'. The curriculum area leader, Gregg Parfitt,⁴¹ who was in his seventh year at the school, suggested that the physical proximity of the labs and the teachers working in them was crucial, as it enabled innovations such as CASE *'to enter and be embedded in the classroom'*.



Figure 47
Science
office,
Kingbourn

The staff in science were a mix of male, female, age and experience, including two previous heads of department. Teachers had a variety of roles and responsibilities

⁴⁰ Years nine-eleven are the last three years of compulsory schooling to age 16. The sixth form (confusingly) refers to the two-year provision after that when further public exams e.g. 'A' levels and GNVQs may be taken.

⁴¹ Who referred to himself as head of department.

locating them in relation to others, so for example, Greg Parfitt was a member of the year team led by a science teacher. The apparently fluid power relations were perceived generally as a co-operative, rather than a hierarchical power-geometry. Opportunities to influence decision-making did not seem particularly role-based - *'all have different strengths and feed off each other'* (Greg Parfitt, head of science). For example, completed schemes of work were checked and amendments suggested by someone relatively new to teaching and also a technician as part of a validating process. Thus opportunities for leadership through influence were dispersed throughout the department. The relationship between collaboration and more leadership was clearly articulated by all the staff:

'We are collaborative, co-operative, not hierarchical. Collaboration means having leadership across a wide range of staff, you don't have to be an old hand in the department to have a leadership role. It encourages people to develop themselves' (Gregg Parfitt, head of science).

In contrast to some schools (Busher & Blease, 2000), the five science technicians were integrated socially into the department as well as through their support function (and one has since become a teacher in the department). The head of science played a pivotal role in creating the conditions for a collaborative 'community of practice' within the department. A talented and committed teacher, Gregg Parfitt had been offered more senior jobs within the school but was adamant that he wished to retain the 'head of department role'. He saw it as a crucial position for introducing and evaluating ideas in the classroom. It is the recursive relationship between physical space and social interactions that create spatiality, and in this case, associations and ways of working together were deliberately facilitated by Gregg and deputy Delphine to enhance strong forms of joint work, such as joint planning and the collective testing of ideas.

The curriculum is manifestly a social construction, yet as Morgan (2000a) points out, it is sometimes treated as a given in many studies of schooling. It was clear that the adoption of the GCSE modular science was a powerful force in bringing the physicists, chemists and biologists together in 'science' as commented on by Christopher Jordan, the deputy head:

'The fascinating thing in their history is that when the GCSEs were introduced they elected to undertake a combined science course which was modular, which meant structurally to do that properly, they had to work collaboratively because you were passing on your students and how they developed to your colleague at the same time. They didn't initially work within their strengths all the time. Your unit of work that you developed was a responsibility to pass to the next person: a) that unit of work but b) how it could be improved, what worked and what didn't work. And that now has developed to such a point where the supportive nature of the science department is staggering. That was about something which forced them to work together and break down the traditional subject boundaries of physics, biology and chemistry, they now work together' (Christopher Jordan, deputy head).

The modular course was thus seen as fundamental in bringing disparate subject staff together, to engage in planning, negotiating and writing work-schemes. This, for subject specialists, entailed working outside their 'comfort zone' in what Vygotsky termed 'the zone of proximal development', where learning is most likely to occur (Gronn, 2003). Through discussion (and sometimes argument), shared understandings about scientific concepts were created, assumptions about appropriate pedagogy scrutinised, and desired outcomes agreed. Thus through exploration, persuasion and negotiation, new understandings were developed and joint artefacts such as syllabus guidelines created.

In the modular arrangement, pupils were passed from teacher to teacher within a structured course, which demonstrated progression through regular assessments. It was therefore necessary for staff to work closely in sharing planning, timing and their knowledge of the cohort of pupils. This could also be seen as a form of collegial or friendly surveillance (Robinson, 2000) whereby the result of their teaching, marking etc. became more visible to colleagues and open to scrutiny during the school year.

Ways of working were deliberately structured to enhance collaboration as strong forms of joint work, for example, to embed innovations such as CASE - which had; *'opened up the department a lot. We had to work together - highly dependent, discussing teaching values and so on, putting theory into practice and seeing results'* (Greg Parfitt, head of science). Courses in science were created by brainstorming, sharing expertise within a suggested structure, thinking what resources were available, with individuals taking relevant lessons to write up, e.g. Year ten schemes of work were being created to include CASE.

'We have produced entire comprehensive lesson plans for every lesson and subject in year nine. It is very gruelling though. I sometimes feel undermined and directed to one style of teaching, but there is flexibility. It means that other staff, especially the technical staff, know where they stand and what they are expecting, so they can get the equipment ready for you. We are well equipped outside our specialisms, theoretically and practically. You know exactly what is expected of you. It has been quite revolutionary (Beatrice Meredith, science teacher).

Most courses were created collaboratively in review and planning meetings during the summer term. These clearly demonstrated the critical practices of adaptability or strong

forms of joint work that Little (1982) identified. In this way new artefacts such as work-schemes were generated, reifying the collaborative outcomes, which could translate the knowledge content and practice between classrooms.

'The most challenging is to structure lesson plans together. We do that in groups of three or four or in pairs. It is invaluable, as we are always discussing all the parts of it, the nitty gritty bits and pieces. It engenders the idea of sharing, all the things that you do. There is none of the 'I do it that way' attitude. People are still flexible about taking on new ideas' (Beatrice Meredith, science teacher).

In such meetings, the range of modalities of power could be observed, as individuals debated grounded interpretations of the syllabus and volubly lobbied for particular approaches. The spatialities of such meetings were qualitatively different from other formal meetings or informal times. Trust, humour and mutual respect were described as being built over time and were cited as essential to the coherence of the department, to the knotting of social and professional relations which encouraged such dialogue. This also allowed staff to share successes and failures, and to acknowledge their own learning, which was modelled particularly by Gregg and Delphine. Thus a department 'culture' of openness was created and sustained in an ongoing fashion.

The strength of social interactions was frequently commented on as necessary to sustain the flexibility and responsiveness witnessed, for example of adjusting imminent lessons in relation to shared equipment and laboratory space that was available:

'There is, on the whole, a very good sense of humour that helps you cope when things are not going smoothly. And a lot of flexibility for example, teachers changing at the last moment if it is just not possible, if we don't have the

equipment. This causes stress on both sides but most of the time it's not a problem as we can be flexible and have a laugh. There are lots of different characters but things are dealt with and forgotten about, it doesn't go on and on. I do feel part of the department and of the whole school' (Selma Richardson, science technician).

At break time the majority of the 25 staff visited the tiny science office, providing the opportunity for casual, serendipitous contact as well as more focused social or work-related conversations. An extract from fieldnotes demonstrates this:

A huge number of interactions are going on, an assemblage of social talk and humour, interchanges about work-schemes, lessons and resources, also students (but noticeably not much storytelling). There is a lot of talk about the curriculum. Talk goes seamlessly between personal and education/curriculum issues.

(Fieldnotes, Kingbourn – 25/5/01).

The interlacing of work-related and social talk was crucial in constructing a 'community of practice'. For this department, their common ground was the teaching of science, which many of them cared about passionately. Their practice was articulated through a common language, which was often quite inaccessible to 'outsiders'. Over the course of a week I was puzzled by references to elephants, e.g. *'Have you done the elephant yet?'* (Selma Richardson, technician), and eventually found this was a reference to a lesson on differential cooling. Artefacts such as the jointly constructed work-schemes could be equally baffling, for example with the continual references to 'VAK'. This was a reminder to staff to include activities for visual, auditory and kinaesthetic learning styles.

In contrast to the humanities staff, teachers in the science curriculum area firmly identified themselves first as teacher of science and only then teachers of a subject such as chemistry⁴², indicating a strong corporate feeling of identity. They consistently cited the department as the major arena for strong forms of joint work, particularly in small and diverse groups within the department.⁴³ The science teachers were seen by others as a cohesive and relatively 'closed' group, but reported and observed interactions indicated that they existed in an extensive web of relations. (*Tables 6 & 7, Chapter Four*):

'Jonathan Dexter has been cutting about the issue that science is separate - we are relatively separate in that we don't come over at break - we are integrated - more integrated ironically than other departments' (Greg Parfitt, head of science).

Greg was fully aware of the issues around building and maintaining a productive, responsive and dynamic department, commenting: *'The interactions in science are phenomenal'*. The department was *'fun to manage'* but challenging:

'They may break into smaller units, but not necessarily physics or whatever, they are often arbitrary. A very lively beast... Strong personalities! They get upset if they can't show they are the bee's knees in front of each other. They like to talk' (Greg Parfitt, head of science).

Here we may see strength through inter-relations, where the department was functioning as a more open system and where teachers were able to draw in experience, materials

⁴² Fourteen of the fifteen science staff, including students, who responded to the grid-instrument identified themselves in this way.

⁴³ Nine out of 15 responses on the location of strong joint work directly cited the department, with a further four being designing materials and mentoring which were likely to take place there also.

and discourses from ‘outside’ (Nespor 1997), with individuals displaying the features of ‘boundary workers’ at different times. Practice was not simply the observable actions of individuals, but distributed across space-time as teachers drew on their experience and education and that of others, as well as mobilising textbooks, videos and the Internet. This might be seen more as a topology of flows of influence in extensive networks.

7.1 Boundaries - work/home

If there are perceived boundaries created by the interaction of the science space in relation to the rest of the school, there is also the zone between work and home. In a study on social organisation in some ‘high tech’ industries, Massey noted how the workplace was ‘*constructed as a highly specialised envelope of space-time into which the intrusion of other activities is unwanted and limited*’ (Massey, 1998a, p.168), with the boundaries between home and work being porous substantially in one direction. At Kingbourn, schoolwork was also seen as consuming and impinging on home life, but the interchanges in the science office at break time were strongly characterised by interplay between talk about the home, and particularly, children. Science staff interviewed indicated that the social support within the department allowed a more permeable boundary, and Beatrice and Delphine in particular acknowledged the importance of this at times of stress.

*‘It is particularly good in science. It has **always** been a very cohesive place, despite changes. We are very supportive of each other. When my partner and I have had difficult times in life colleagues have rallied round. They have been marvellous in some of the difficult emotional times I have been through’*
(Beatrice Meredith, science teacher).

Such everyday interaction is creating the contexts and interpreting the contingencies out of which the next action springs - as Foucault (1988) describes, one action upon another. Boden (1994) suggests that this is particularly located in talk. Such talk reflects power-geometries within 'the community of practice', as suggested by the fieldnotes below.

Delphine is a pivotal character; she seems to have a clear sense of what is going on and her boundaries. There is delegation and the use of different forms of expertise. People are able to voice queries generally and they will be picked up by someone. The relevant reference resources e.g. syllabi and notices are to hand and are referred to. The student who is concerned about standards and how well 'his' students are doing in relation to the syllabus and to other groups is able to ask questions of several different people in order to gain a picture. He is also able to actually look at the other students' papers.

Fieldnotes (25/5/01)

Thus the legitimate peripheral participation identified by Lave and Wenger (1991) clearly operated throughout the day in the science office as student teachers interacted with each other and science staff. Although this was not investigated, it is probable that students experienced other forms of power such as the 'noisy surveillance' of friendly enquiries after the success of lessons (Robinson, 2000), and of course the normalising influence of exposure to such a density of discussion around practice. The space of the science department was here actively being constructed and performed, with those performances being elements of relations of power, as expressed by Gregson and Rose:

'Specific performances bring these spaces into being. And since these performances are themselves articulations of power, of particular subject

positions, then we maintain that we need to think of spaces too as performative of power relations' (2000, p.441).

The science department as a workplace was thus constructed through sets of complex intersecting social relationships that operated at a variety of levels. Greg Parfitt and Delphine Proudfoot were clear about the importance of bringing people together in a variety of ways, including socially and more formally. The administrative communications within the department were efficient and highly organised, and a weekly information bulletin on individual sheets was prepared and later filed with the occasional 'innovation bulletin' being produced. Department meetings were likewise clearly structured to avoid having to deal with maintenance items, allowing time to discuss more development issues (Hargreaves, 1998; Joyce *et al.*, 1999).

'In the [fortnightly] meeting we often have development planning time. We seldom have a meeting when someone simply disseminates. We also have a science bulletin, of things to keep an eye on. Stuff about ICT and new ideas is published in an innovation bulletin, which is then kept in a file and eventually put in the handbook and we can look back at it when we are lesson planning'
(Beatrice Meredith, science teacher).

Thus knowledge that was shared or created together was reified for future reference. In addition to the official documents, there were collections of photographs on the walls, showing members of the department at past celebratory events, in relaxed or humorous poses. These displays (*Figure 48*) produced a space-time stretched out beyond the limits of the room, articulating a sense of the department as social, even familial, as well as professional and of having a shared and valued history (Rose, 2002). The workspace was therefore constructed as more porous and dynamic, not simply in one direction of

work impinging on 'home'. Observation of the language and interchange at breaktimes reinforced this in the assemblage of story telling and dialogue, where talk about families interwove with discussions about the curriculum.



Figure 48
Displays in
science office,
Kingbourn

8.0 Conclusion

In this chapter, schools as institutions are taken to be made and remade by configuring practices and relations. They are constellations of relations, with their uniqueness arising from the juxtaposition of relations connected in/as space-time to wider flows. Within this network of relations, 'the department' is as a particular locus of such (power) relations, made and remade by the interaction of people, objects, ideas and discourses. The science department at Kingbourn was one such configuration, a 'space-contingent field of practice' (Nespor 1994). It was a particular nexus of inter-relations, comprising forces and influences that intersected and interplayed with organisational and curricular structures and histories, social and political constructions and the material environment in which people experienced 'their workplace' (McGregor, 2003c).

This chapter has indicated a network of relations creating the space, which was the department, as a dynamic enterprise:

'Networks aren't just groups of individuals with fixed attributes but nodal points of contact in circulating relations, usually operating on a small scale, sometimes hidden, with a mutual orientation in which co-operation and obligation are paramount, and reliable sources of information and action are sought' (Lawn & Grosvenor, 1999, p.387).

As described by actor network theorists, and discussed in the next chapter, there was an active, not passive relation between the actors in the science department as a network which included technologies and artefacts as active members of the networks, determining solutions, circulating ideas, and circumscribing actions (Latour, 1997; Law, 1992; Murdoch, 1998). This was part of a deliberate strategy in creating a collaborative workplace. Thus the science department office particularly was more than a context in

which interaction occurred; it was embedded with social meanings and served to facilitate certain types of interaction, which constructed the space. These comprised a particular juxtaposition of people and artefacts, which enabled and focused the interaction (Shilling, 1991), but also wider discourses drawn on from beyond 'the department'. The web of relationships was expressed particularly through talk, whether 'informally' in the science office or during department meetings when new understandings were made. Thus 'the department' was an ongoing construction, not practice in context but context through practice (Little, 2002).

Approaching the workplace as constructed spatially thus moves beyond the concept of multiple contexts, to suggest a topological approach (Mol and Law, 1999; Nespor 2000b) to understanding what takes place in schools. Extending this through practice-based theory suggests recognising places as co-constitutive of knowledge, practice and identity. Practice-relevant configurations will be the pre-requisite actor-networks, which may comprise a community of practice. In the case of the science department at Kingbourn, the continually enacted relations created what was described as '*a very satisfying place to be in*' (Beatrice Meredith, science teacher). Thus we may move conceptually away from the notion of pre-existing performance teams (Goffman, 1969) or communities of practice (Wenger *et al.*, 2002) into which individuals move, and rather suggest that the department is performed through the various constitutive activities and thence is itself a way of configuring space-time.

Space is therefore not simply the untidy backdrop to teacher and student interactions, but filled with professional and political significance (Keith & Pile, 1993). Seeing space as actively constructed and performed requires greater consideration of relations of power - if power is immanent rather than hierarchical, with particular assemblages of

space integral to organisational forms. A spatial analytic of power which is sensitive to the way in which everyday relations interact and intersect with wider flows could be applied to a social network analysis to further explore densities of interaction within and beyond the school and thence begin to map opportunities for learning.

Where the organisational unit of the department intersects with collaborative cultures or communities of practice there can be a powerful synergy, creating new possibilities for learning of all kinds. As a way of organising time and space, the department as a work *place* reassembles the conditions necessary to 'be a science teacher'. And when *knowing* is also seen as distributed, teaching may be seen not just as the product of individual teachers but '*a collective accomplishment of groups of teachers working together*' (Nespor, 1997, p.12), thus opening up other spaces for learning together. Through the intrinsic openness of space-time, we see the possibilities for making spaces of association for adults and students in schools, which are generative of mutual learning and understanding.

Chapter Seven - The place of the material

1.0 Introduction

'Every teacher knows, (that) the world of school is a social world. The human beings who live together in the school, though deeply severed in one sense, nevertheless spin a tangled web of interrelationships; that web and the people in it make up the social world of the school. It is not a wide world, but for those who know it, it is a world compact with meaning' (Waller, 1932, Preface).

Waller states that a major aim of his classic book 'The Sociology of Teaching' is to give *'insights into concrete situations typical of the typical school'*. He uses concrete as meaning to make (or represent) a situation real, hence: *'Realistic sociology must be concrete'* (Waller, 1932, Preface). Concrete, apart from the intensely material stuff of building, also expresses physical form - a material object as opposed to an abstract quality or action. The use of the term juxtaposed with the definition of the school as a social world highlights the polarisation of the physical and the social. In the same way, 'matter' presents a double meaning of *'a physical substance or material as distinct from mind or spirit'* or *'an affair or situation under consideration'* (Pearsall, 1999, p.880). In this common dichotomy, agency is the property of the social (fluid, changing) and determinism of the physical, which is taken to be fixed and rigid.

In exploring spatiality further, an overall aim of this chapter is to bring the materiality of schools to life; to investigate and acknowledge the 'concrete realities' of the artefact-

filled world in which teachers, support staff, students and pupils work and indicate the way in which networks of people and things order the spaces of workplace life. I hope to explore the spatialising force of objects as active constructors of social space, without resorting to simplistic behavioural determinism.

In this chapter, spatiality is examined explicitly in terms of the network space of relations and objects. In focussing on the recursive relationship between the social and the material, and their implication in the everyday interactions that constitute the school, I explore the utility of Actor-Network Theories (ANT) more fully. This provides a means of reconciling the two without privileging one over the other, or relegating objects to simple cultural or symbolic artefacts. The theoretical focus relates again to the empirical concern of how particular spatial arrangements encourage or constrain particular ways of (adults) working together. Where actants are dialectically constituted by social relations and network ties in this way, I argue that pedagogy becomes an accomplishment of a department as a network rather than an individual. This reinforces the alternative view of the context of teachers' work as a reciprocally created dynamic where teachers and pupils may be seen as network effects.

2.0 The workplace of the school - 'In the midst of things'

Teachers and pupils are mutually constituted with the materiality of schooling and have always been so. Technologies have changed somewhat, from the fixed desks and slates of the late 19th century to the use of the pencil, inkwell and textbooks and now (for some) the video, electronic whiteboard and Internet link. However, some material forms are more durable than others, such as the classroom, and objects or technologies such as the textbook and blackboard. Others are more ephemeral, foregrounding the passing of

time, as I discuss in relation to the folding in of the past in the present through 'storage space'. Thus the features of the humanities classroom at Brythnoth (*Figure 29, Chapter Three*) have been recognisable and replicated through much of the world over the last century.

The material technologies of the classroom are inextricably linked with the pedagogic practices that help constitute it and the prevailing view of what counts as knowledge, located in a hierarchy of curriculum subjects/areas. For instance, in the 19th century the use of chalk and blackboards to display text allowed teachers to manage a larger group of pupils, who could now sit further away from them. Likewise the textbook is a complex technology that has had a considerable influence on the nature and slow change of schooling (Hamilton, 2003). Technologies can thus be defined as both a tool and an approach. Macgregor-Wise suggests ANT presents a spatial view of technology where '*artefacts exist in space, manipulate and manage space, and through networks constructed by the enlisting of multiple actors, establish lines of power and domination that criss-cross space*' (Macgregor-Wise, 1997, p.36).

Technologies and objects are not simply passive presences (or mechanistic manipulators) but mediate between humans, and may also be active components of such relations. An obvious example is the use of computers and the Internet. The very rapid development of Information Communication Technologies (ICT) in the last two decades has impacted on schools in many ways, often without substantially changing pedagogic practices or (power) relationships. Such technologies can reinforce existing practices and power relations as well as creating more open possibilities for the future. Ethnographies have perhaps best described material aspects of the school as a workplace (Ball, 1981; Hammersley, 1980; Willis, 1977). The worklives of teachers are

clearly shared with objects which help configure and define their work and identity and are elements of what have been described as spatially constituted subject subcultures (Siskin, 1994). These subcultures are manifested through the material physical environment, the architecture of designated classrooms, laboratories, tennis courts and the artefacts and technology in use. They reflect the social relations, including curricula and pedagogic practices and the space-time organisation of the timetable (Lawn & Grosvenor, 2001; Siskin, 1994).

Organisational cultures are also expressed through formal and informal meetings and the negotiation and evolution of artefacts, manners and language (Gherardi, 1994). However, the recursive relationship between the social and material is rarely investigated beyond the appearance of homogeneity implicit in notions of culture, whether individualistic or collaborative (Hargreaves, 1993) or the micro-political manipulation of access to resources (Ball, 1987). Focusing on the spatiality of 'the department' and tracing the networks of which it is a part, presents greater possibilities for understanding the influences on, and construction of, work relationships in a more holistic fashion.

Arising from the increasing emphasis on practice in workplace studies and in social theory as a whole, a further question germane to this thesis arises; 'What does it mean to be **collectively** in the midst of things?' (Bingham, 2001). Practice-based theorising suggests that people belong to many different overlapping groups and communities of practice where, united by a common interest and enterprise, they develop values, language and 'ways of doing things'. It is taken for granted that artefacts and technologies, as well as language, are major components of what can also be termed an assemblage (Wenger, 1998).

However, existing studies of both cultures and communities of practice generally identify objects as either symbolic representations or 'reifications' (Wenger, 2000). Objects are invoked to reinforce similarities and difference across boundaries assumed to exist (between communities of practice) rather than having influence in themselves. Drawing on ANT, I explore the notion that objects may have agency as well as humans, influencing action as well as being a result of it; where agency is the accomplishment of an assemblage of people, objects and technologies (Latour, 1997; Law, 2001). This move has the practical application of suggesting that in 'successful' departments, their effectiveness may be dependent on mobilising the effectivity of the material within such networks.

A spatial network perspective focuses on the way in which people, ideas and technologies are brought together in practice-relevant configurations resulting from intersecting trajectories extending in space-time (Nespor, 1994; McGregor, 2003). Situated learning is not therefore straightforwardly located in face-to-face interaction, but is also a function of more extensive relationships. To act as 'science teachers' people need training, laboratories and equipment, texts and curricula etc. They do not just participate in localised, small-scale communities of practice which produce knowledge, but actively configure space and time through the (inter)actions of the community.

Nespor presents a 'community' as composed of heterogeneous elements linked in actor-networks with *'fluid and contested definitions of identities and alliances that are simultaneously networks of power'* (Nespor, 1994, p.9). If knowledge practices are interactions with distant times and spaces (for example through reading a classical text or communicating with the Science Association through e-mail), individuals, rather than

fixed and bounded entities, may be seen as *'intersections of multiple ongoing activities'* (ibid, p.7). This perspective is particularly important in challenging the orthodoxy where teaching is *'treated as a property of the individual teachers rather than of the faculty as a whole or of the relationship between the teachers and the community'* (ibid, p.12). An alternative view is thus that pedagogy is an ongoing and collective accomplishment supported by particular patterns of association and spatiality. This is further developed in relation to the science department as Kingbourn.

3.0 The place of the material

In the social sciences, debates over compatibility of social constructionist and materialist perspectives continue (McDowell & Sharp, 1999). Law suggests that despite this, materialism and social relations are demonstrated to interact in/by *'the best sociologies such as Marxism and feminism'* (Law, 1992 p.389). Feminist geographies often focus on such relations in everyday space (Holloway & Valentine, 2000a; Laurie *et al.*, 1999) in a manner which *'resists the tendency of spatial science to reduce space to geometric relations . . .and draws attention to the fact that social life necessarily happens in certain spaces and places'* (McDowell & Sharp, 1999, p.261). Clarke (2001) observes that social constructionism(s) may also be increasingly turning to materiality in a reaction against post structuralism/de-constructivism.

If understood as a transparent, homogeneous and apparently innocent backdrop, the material 'physical' elements of space are stripped of influence and power/agency; but society and organisations would not exist as we experience them if they were purely social. Hence it is necessary to consider such relationships lest, in studying social relations alone, we lose purchase on the materially embedded (concrete) realities of

work in schools. Spatiality is an important theoretical tool for explicating such patterns of power and agency.

The relationship between conceptions of space and place is worth unpicking further, to illustrate changes in the way we think about our everyday lives and how the material aspects of them have somehow vanished along the theoretical way. In the geographical tradition which identified space as fixed and defined by the co-ordinates of physical entities, place was seen as an assemblage of unique but internally homogeneous phenomena, which enabled the construction of 'regional boundaries'. Place was viewed as *'a site of authenticity, as singular, fixed and unproblematic in its identity'* (Massey, 1994, p.5) bound up with a sense of identity and belonging (Keith & Pile, 1993; Urry, 1995). Geographers such as Massey have, however, reconfigured our understandings of space and place. Hence, if:

'the spatial is thought of in the context of space-time and as formed out of social relations at all scales, then one view of a place is of a particular articulation of those relations, a particular moment in those networks of social relations and understandings' (Massey, 1994, p.5).

The apparently fixed geometry of Euclidean space is taken for granted in schools as 'the natural order of things' (Law, 2001; Fisher, 2002a). So for instance, the classroom as a designed technology becomes invisible, with the teachers as actors privileged over it. If however, we see places like spaces, as constructed from relations, always in the process of becoming, then places are ways of making meaning from heterogeneous and dynamic spatio-temporal and material arrangements.

Hetherington (1997a) argues that such relational thinking, and the more recent concern of geographical discourse to differentiate between spaces and places, has contributed to the effective disappearance of the material world from our view. He suggests that, even when contested, such conceptions of place have been taken to be fundamentally defined by human agency alone. *'Turning a space into a place, giving it meaning, it is assumed, is an act of human intervention'* (Hetherington, 1997, p.184). Thus the material world is again made invisible and replaced with culture, symbolism and meaning. In pursuit of his aim of foregrounding materiality, Hetherington suggests that places are generated by *'the placing, arranging and naming the spatial ordering of materials and the system of difference that they perform'* (ibid, p.184).

4.0 Actor-Network Theories

Given the nature, complexity and development of the work over the last decade, it would be perhaps best to talk about Actor-Network *Theories* as, a constellation of theoretical and empirical writing around the relationships of science technology and society. Here I will follow Clarke's (2001) argument for recognising the plurality of the approach while retaining the singularity of the term. ANT treats social relations including power and organisation as network effects. Networks are seen as materially heterogeneous, a constellation of actors (or rather actants), which may be artefacts, creatures, structures or sets of socially constructed principles and processes. In this relational materialism actors are mobilised and managed to maintain an active relationship - to 'make things happen' (Law, 1992; Lawn & Grosvenor, 1999). Callon and Latour (1981) propose that an actor is *'any element which bends space around itself, makes other elements dependent upon itself and translates their will into a*

language of it's own' (Macgregor-Wise, 1997, p.286). Hence the automatic door which regulates the entry of people into a room, managing space and movement.

What, it is claimed, makes ANT radical is that it does not privilege the human (Whatmore, 1999). Technologies and objects are treated as active members of networks, transacting themselves, circulating ideas and circumscribing actions. By employing a common analytic register, social agency is demonstrably not limited simply to people (Clarke, 2001). Latour (1997) indeed suggests that ANT has relatively little to do with the study of social networks *per se*.

ANT explores the mechanics and origins of power and organisation or how organisations 'keep themselves in place'. It does this by focussing on interactions that succeed in stabilising or reproducing themselves through the juxtaposition of materials (human and non-human), strategies and technologies (Law, 1992). Institutions as actor-networks are thus made and remade as an ongoing process. Through exploring social *effects*, questions are raised about *how* power, structure and organisation operate and are generated in patterned networks of diverse materials. Thus it is possible to begin to trace the strength of associations through space-time. Lee and Hassard (1999) suggest that Actor-Network Theory is particularly useful in being empirically realist while ontologically relativist, enabling a focus on how organisational achievements are realised. Clarke (2001) however, observes that the stories told often seem to start from the end, with the failure of a network element, which is not the impetus in this thesis. ANT is proving to be a useful analytic tool in social science and increasingly in organisational theory in relation to practice-based concepts, although it is relatively unknown in educational literature (Gherardi, 2000; McCormick, 2003). This chapter

develops the argument that ANT provides a useful lens for the study of teacher interaction and collaboration as well as of technologies of teaching.

4.1 ANT and schools as workplaces

In considering the materiality of schools, ANT thus contributes a focus on networks to the understanding of relational spaces (Latour, 1997; Murdoch, 1998). This moves us to a further understanding of different aspects of spatiality, as it is performed. I suggest that what is understood as a particular organisational or cultural entity, such as ‘the science department’, is a heterogeneous network extending in space/time. As Bingham (2001) observes, we live ‘*in the midst of things*’, perhaps nowhere more so than in schools, although this is generally ignored in educational research. I will consider the way in which teachers are mutually constituted with the materiality of schooling through technologies such as the classroom and reprographics. That the network does not just participate in the social but actively shapes it is explored in relation to ICT in the study schools, and later, in relation to what constitutes the department.

In this thesis the salience of collaborative interaction in the department is explored through a reframing of power relations. A major concern of Actor-Network Theories is to explore and describe processes which generate ‘ordering effects’, hence one form is known as the ‘sociology of translation’, being concerned with the mechanics of power (Law 1992). A Foucaultian understanding is of power constituted from complex actions of arranging and ordering, with power and resistance intertwined (Foucault, 1980, 1988). Latour (1997) suggests that this analysis of micro-powers demonstrates that strength emerges from the weaving together of numerous weak ties rather than concentration on single strands. This has particularly useful resonance for the study of

power relations in education (Hinchcliffe, 2000), where certain configurations of network have sedimented into extremely durable forms such as the classroom and where centralised control is exercised through networks of influence like the National Curriculum.

ANT has implications for identities and how we understand learning and knowledge, also how we think about ‘the teacher’ as a *network effect* of past experience and so on, as well as a patterned interaction with material technologies, ideas (e.g. curricula), and strategies (e.g. work-schemes). Teachers in this study identified such elements when asked what they could not do without in order to ‘do their job’ of teaching. Answers ranged from the classroom and furniture, blackboards and overhead projectors, whistles (a P.E. teacher) to the curriculum and schemes of work, colleagues and good health. It should be noted however, that, while it offers a powerful research perspective, ANT has been accused of slipping into a gendered materialism which ignores the dominant and ‘*enduring cleavages in the social order*’ (Nespor, 1994, p.15) such as ‘race’, gender and class and hence the marginalised who patently exist within the ‘power-geometries’ of networks (Clarke, 2001; Macgregor-Wise, 1997).

5.0 Experiencing the material space of the school

Although those who work in schools experience their everyday life as embedded in the material, the relative dearth of literature on the influence of the physical environment of British schools is striking, corresponding with the neglect of school buildings in England since the Thatcher years, ‘*For the most part, discussion concerning education over the past 25 years has tended to ignore the fact that schools are physical entities as well as organisational units*’ (Clark, 2001, p.1). The absence of concern over the

relationship between physical space, place and teaching and learning in research has in turn contributed to the neglect of school buildings (Clark, 2000; Jamieson *et al.*, 2000).

Teaching and learning as social relations are however, commonly divorced from the material space within which they are mutually constituted in school, in both educational and architectural literature (Fisher, 2002b; Golby & Appleby, 1997). This is further evidenced by a Californian study on teachers' use of space and place which found that *'schools as currently designed provide inadequate work environments for teachers'*. Siegel suggests this results from the design focus being on the school as a *'learning environment'* for pupils, ignoring the workplace aspects *'despite the fact that the two are intertwined and cannot be separated from one another'*. Her conclusion was that *'the physical design and organisation of a school is an active element that needs to be considered seriously as a context of teachers' work and school reform'* (Siegel, 2002, p.5). The recursive interplay of the spatial and the social influences the possibilities for learning of both pupils and teachers, from their peers and from each other.

Siegel explored architectural difference in the physical layout and grouping of classrooms in relation to organisation into departments or grade levels, although using 'context' in the orthodox understanding of space as a physical container. In inquiring into conditions of teachers' work environments, the problems (in new as well as old schools), included insufficient classrooms, meaning that teachers had to share rooms and travel between them, a lack of 'places to work' when not in the classroom and difficulties in storage and access to it (Siegel, 2002). This was particularly the case for those who were not based in one room for their teaching and who consequently had to carry the necessary materials with them. In this study, one such teacher at Brythnoth had made seventeen to twenty room changes during one week, which involved moving

from block to block, whatever the weather, dubbing himself '*plastic crate man*' (Gregor Talmussen, head of humanities, Brythnoth). A student at Kingbourn was in a similar position during her teaching practice and insisted I take a photograph of '*my filing system, as I don't have a base*' (Nola Fain, trainee teacher) (*Figure 49*).

In this study, teachers cited 'lending and borrowing materials' as a major form of interaction in the workplace, with 13% of all responses, ranked fourth in the reporting of the grid (*Figure 38*). Materials that are commonly shared between staff, perhaps because of joint groups have to be located centrally, by being clearly identified and easily accessible. This is particularly important where resources are scarce, where non-specialist teachers have to be supported, or the lessons are dealing with current issues. Resources for the General Studies course, which all sixth form students took at Kingbourn, comprised (in addition to videos) Xeroxed articles, newspaper cuttings and worksheets which were kept in the main staff room where they were prominently displayed. The labelling also afforded an intriguing and public statement of the current issues being addressed and the range of sources from which they were drawn (*Figure 50*).

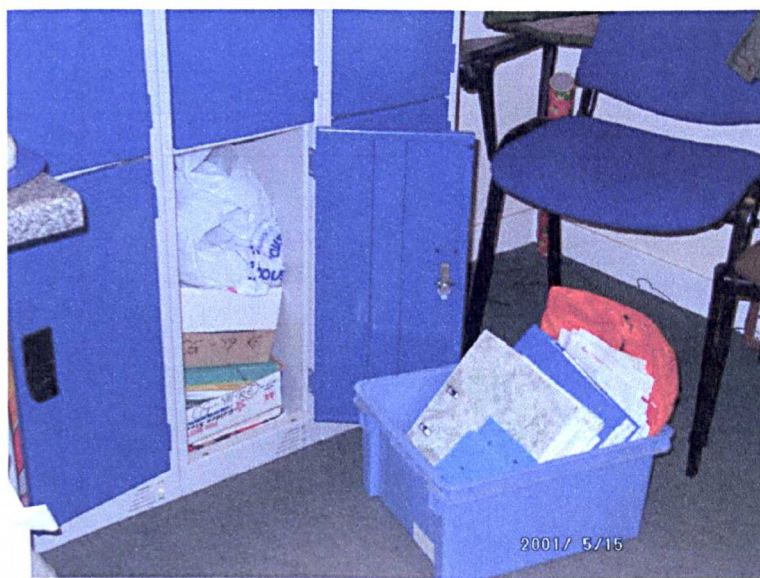


Figure 49
'My filing
system' –
plastic crates
belonging to
student teacher
at Kingbourn

5.1 The classroom as a network - A persistent form

In schools, interactions and communications are profoundly shaped and created by networks of objects and people - pupils and furniture in particular configurations, and the availability of equipment such as pens, paper and textbooks. Law (1992) illustrates this with the example of the educational technology of Overhead Projectors (OHP) which rather than being seen as simply machines can be active constructors of relationships, mediating and determining social interactions. Hence, the teacher may be 'in control', using the OHP at the front of the class to display and explicate graphs or text and *inviting* pupils to come and use it, or the pupils may have access to the pens and acetates also needed for the display to function. Of course, if the bulb blows that also has an effect! Thus the OHP is a part of the both the social and the spatial, as a dimension of spatiality.

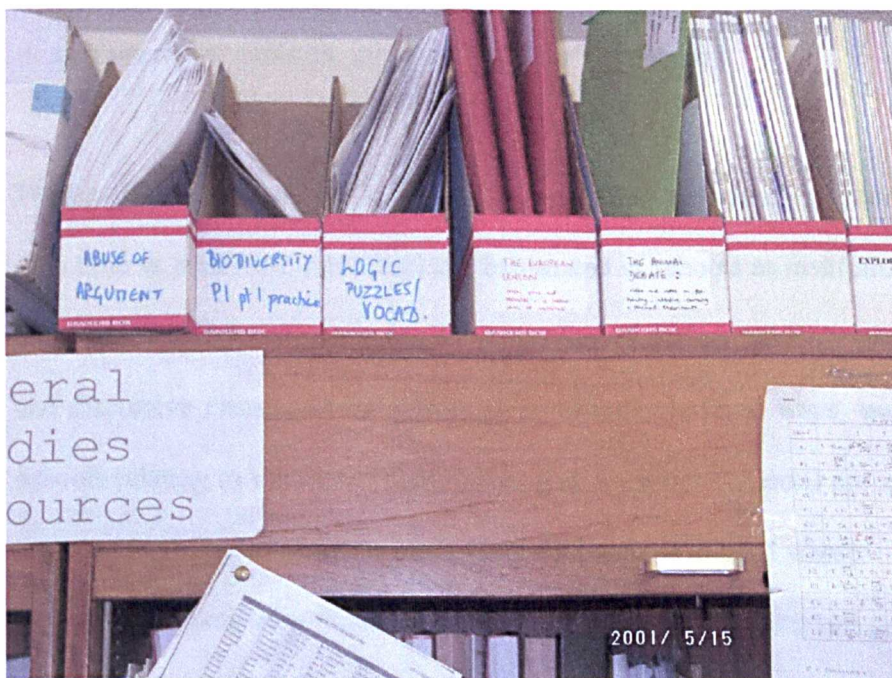


Figure 50
General
studies
centralised
resources –
Kingbourn
staffroom

Self-evidently, the school or classroom initially maintains its recognisable shape or configuration because some materials and structures sustain relational patterns for longer. 'The classroom' is an assemblage of objects, relationships and activities which has been stable through time, maintained partly by organisational and political inertia and hegemonic notions of what constitute relationships in schooling (Brown & Kelly, 2001). This reflects and affects the persistence of certain forms of pedagogic or classroom practice, where (power) relations are inscribed and embodied in such material.

*'In so far as objects - or at least tools and apparatus - reify theory and practice, they are the materialised carriers of theory and practice from the past into the present. Similarly, the physical form of produced spaces, such as classrooms, materialise past time/space practices, social relations and pedagogic modes. Classrooms not only **express** antecedent social and discursive arrangements, they also predispose current practices to emulate past practices'* (Jacklin, 2000, p.4) (author's emphasis).

Thus material practices are reciprocally constituted with teaching practices interwoven with time as patterned, embodied and habituated in schools as institutions and schooling as a system. Jacklin suggests that while teacher education concerns itself with the social and discursive dimensions of pedagogy in uncontextualised ways, teacher practices in schools relating to the use of time, space and resources (objects) are seen as separately the province of school management. Hence a binary is created where:

'The human and non-human dimensions of teaching practices are pushed apart and relegated to different domains and the ways in which they are interrelated and fused in habituated transmission practices within particular social spaces are rendered invisible' (Jacklin, 2000, p.4).

In this way, teacher and pupil working conditions are shaped by decisions made away from the classroom space. It is also this silence around spatial and network configurations which allows and reinforces the notion of the teacher as an isolated individual working in the classroom ‘black box’.

5.2 Folding the past in the present - Storage of materials

While hoping to disrupt notions of inside and outside, this study was initially designed to research interactions ‘outside’ the classroom and consequently teachers were not deliberately observed interacting with the objects and technologies that construct their daily lessons with students. As the study developed however, it became clear that the social and material elements could not be easily separated. In interviews with staff, through observations and the photographs taken and mental maps drawn, the importance of material equipment and technologies (and Cartesian distances) were highlighted. When working as the head of a humanities department I was acutely aware of the importance of material resources, whether paper, fieldwork equipment or licences to use particular ICT networks. The discovery of an attic world of stored *things* above the humanities department at Brythnoth prompted reflection on the relationship between such materials and pedagogic modes and practices. This resonates with the work of Lawn & Grosvenor (2001) who use a temporal perspective in relation to Actor-Network Theories to explore relationships with the past between teachers, pedagogical practices and enduring technologies

In Gregor Talmussen’s (history) classroom in Brythnoth there is a trapdoor in the ceiling from which an extendable ladder can be pulled. These rickety and dangerous⁴⁴

⁴⁴ The head of geography describes how he nearly hurt himself badly carrying boxes of books up it when alone after school (Fieldnotes, Brythnoth Nov. 11th).

steps lead up to two substantial but windowless attic rooms above the Humanities block
(*Figures 51 & 52*).



Figure 51
Steps into
attic above
humanities,
Brythnoth

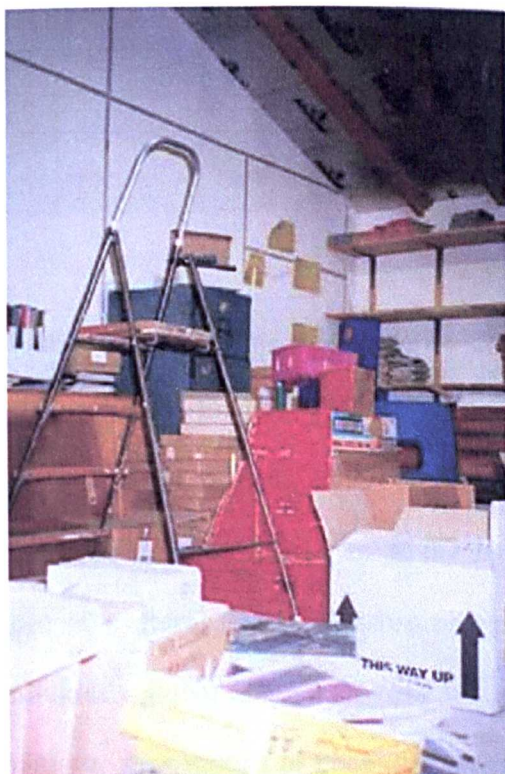


Figure 52
Attic above
humanities
used for
'storage' -
Brythnoth

One room has shelves built around two walls, but most of the cardboard boxes, books and packs of information are in piles on the floor. There are ancient atlases, foxed wall maps and large linen maps designed to be hung from the ceiling. Also ‘Mapograph’ roller maps which had to be inked up and then applied to the paper to produce an outline. Other abandoned technologies include old printers and parts of a computer. The few items of fieldwork equipment that are owned by geography rather than borrowed from other departments (measuring tapes from P.E., grid squares from science) include the ranging poles that lean against the wall (*Figure 53*).



Figure 53
Assemblage of
stored
materials for
reproduction,
attic,
Brythnoth

These items witness changes in pedagogic practice and content. The National Curriculum in England and Wales made testing in state schools mandatory requiring, through statutory assessment, the study of certain countries. Brazil, Kenya and Italy were particular ‘beneficiaries’ to the detriment of others, which were effectively pushed out of overcrowded work-schemes and the texts relegated to the attic. Other more obviously global forces have, of course, literally changed the boundaries drawn around nations/ state/groups of people or altered their names, making the old wall maps, still

with the pink swathes of Commonwealth, now sources of ‘historical’ information, folding and rolling up the past with the present.

Such an assemblage of items is common in school store cupboards and competing for space in department offices. The need for the storage and accessing of a wide variety of materials is a major consideration for teachers in their everyday work lives. Pupils’ work (whether writing or pottery), text and reference books, tapes, videos, chemicals, fabrics and wood, and equipment such as hockey sticks are examples of the many things teachers may need to draw on over the course of a year (*Figure 54*). The attic above the humanities rooms at Brythnoth did not, however, represent the same kind of storage space. Some items, such as the ranging poles continued to be in use, but many of the books and objects placed here, at some risk to the teachers, were no longer, and are unlikely to be, used.



Figure 54
P.E. office,
Kingbourn

As historians of education, Lawn and Grosvenor, in what starts as an ‘archaeology’ of past practices, describe such old and unused equipment as:

‘A sign of the layers of sedimentation of work and the cultures of work, in the school. The machines could be a guide to older ways of working in the school and the arrival and demise of skills, duties and routine relations. These machines could offer some evidence but only when additional information can be gleaned from them, the people who used them or remaining school documents about them’ (Lawn & Grosvenor, 2001, p.1).

These traces of the everyday thus contribute to making the invisible visible by indicating the technologies employed, which in turn suggests the ideology behind them and shifts in the social relations of work.

5.3 Educational technologies of reproduction

The Mapograph cylinders seen in the picture (*Figure 53*) have been made redundant not only by international politics and decisions on what counts as knowledge through the curriculum, but also by changes in technologies of reproduction (copying). In the past the individual geography teacher might be found in the morning at the ‘Banda’ machine, inhaling the spirit fumes while cranking the drum to produce a class set of maps painstakingly drawn in three colours from three different sheets. While the large Gestetner machines were often at first operated by office staff, it was probably not until the advent of affordable photocopying technology that support staff were widely employed in secondary schools purely for reprographics. However, after the 1988 Education Reform Act the profile and numbers of support staff began to be raised with the increasing financial flexibility from Local Management of Schools and Grant

Maintained status (Mortimore *et al.*, 1994). Thus changes in work relations in schools are directly mediated by the uptake of technology in addition to economic and political circumstances.

At Kingbourn, the reprographics/photocopying room was a major hub of interaction and cited as an essential part of the workplace, particularly for the humanities teachers interviewed. In both schools, a number of teachers noted that they would not be able to do their job without access to reprographics. A recent report, drawing on data from 1400 schools suggested that, within the context of an increase in the amount of administration, tasks such as photocopying and chasing absences were inappropriate to teacher's role. It concludes however, that simply transferring tasks to others does not take account of the integrated nature of many of the activities (Greene *et al.*, 2002).

This thesis emphasises the complex interweaving of affective (and effective) social and professional relations in the work of adults in schools. This is demonstrated by the 'mental maps' locating the reprographics room at Kingbourn as a place of friendly conversation and serendipitous meetings with colleagues engaged in work tasks (*Figures 36, 37*). This was, however in contrast to the atmosphere of the analogous facility at Brythnoth, where a table was half pushed across the door space and Gregor Talmussen commented '*We are supplicants at the cave*'. Siegel identifies the salience for interaction of centralised workspaces such as copy rooms, where queues form, providing opportunities to view other's materials, and engage in conversation with colleagues.

The interaction between the technologies and the work relations of the school can also be explored through the juxtaposition of the educational practice of teachers and '*the*

educational practice designed into the technology' (Lawn and Grosvenor, 2001, p.120).

Material technologies and the way in which they are designed, marketed and used are far from neutral, whether modern language tapes or textbooks with worksheets and assessment tied into the National Curriculum criteria, designed to be 'teacher proof'.

6.0 The influence of ICT in pedagogy and (power) relations

'The more things change the more they remain the same'

At both schools the provision and use of ICT was an important dimension of everyday work and planning for the future. At Kingbourn, it formed a major plank of the new head's development plans to extend and reconfigure relationships between teachers and students, teaching and learning. With ICT an actor-network is particularly obvious. There is the commonly understood 'computer network' of cables and machines that can share data and allow individuals to communicate through e-mail. But further, ANT recognises the importance of the interaction of the 'hard' and 'soft' ware, where people, knowledge and organisation are brought together in an active relationship and a particular spatial configuration which is planned and maintained (Law & Hetherington 2001). It is especially important to consider ICT as both a language and (material) device, because of the rapid pace of change in some areas which can mean that reified information, (e.g. on Betamax video tapes) can no longer easily be retrieved.

In terms of provision and access to hardware, wealthier Kingbourn was the better served school with two dedicated and large computer rooms (*Figure 55*), one with 48 machines for 'drop in' as well as for teaching and with a further ICT room in the sixth form. Faculties which '*had their own computer rooms*' (Stephen Kendall, bursar, Kingbourn) were maths, science, technology, art and media (the latter also had a significant amount

of computerised equipment for recording etc, with a separate facility for music). English and geography were in the process of having a facility commissioned. In addition, most areas, including the student support unit, had a number of modern computers in the classrooms.



Figure 55
Dedicated
computer
suite,
Kingbourn

In the staffroom quiet work area there were two networked machines which were regularly used and individual machines were common in offices. Of the 321 computers in the school the ICT homepage stated that 258 were for curriculum users and 63 for administration. The school was networked throughout. An in-house closed circuit television circuit with screens in every classroom had been in active use for the last ten years, replacing school assemblies when the numbers of students made it virtually impossible to (physically) gather ‘the whole school’ together in ‘one place’, while (virtually) possible to create a different space!

At Brythnoth, the new sixth form had an ICT room, while in the lower school there was one computer suite along the maths corridor, which did not seem to be regularly used.

This was an area of concern, especially for the maths department who would have liked to annex it. The business studies department had a large number of machines in what was effectively a computer lab (*Figure 56*), used for the teaching of ICT in the lower school. This situation reflected the importance placed on the development of basic skills by the college, which had a significant proportion of students from relatively disadvantaged rural backgrounds, and the historical development of the business studies department in providing a platform for this. Competition for access to ICT resources as well as space was often keenly felt and it was suggested by some staff that core curriculum areas were more favoured in their access to ICT resources. The head of food and textiles at Brythnoth commented of their one ancient machine: *‘We need decent computers because now we’re meant to be delivering parts of the ICT curriculum but they don’t seem to appreciate that. We don’t need them because we just cook and sew!’* (Gillian Mason, head of food and textiles, Brythnoth).



Figure 56
Business
studies
computers
Brythnoth

The science department at Brythnoth had set up six machines in a room at the end of ‘their’ corridor, which they hoped to keep from P.E. and R.E. (by logging and

demonstrating use) who had previously occupied it. Other areas such as design and technology also had a number of computers; likewise the art department, whose embrace of computer technology mirrored that of the Kingbourn art department and was expressed by their pride in being the first '*computer literate*' department in the school (Hilary Shaw, art teacher, Brythnoth). There were two computers in the staff room but they were old and staff frequently had difficulties with gaining entry through passwords, particularly when laying a (partial) network was in progress.

The human element in these networks was crucial in the day-to-day maintenance and development of their configuration, both in terms of hardware and software. It was commonly agreed at Brythnoth that the ICT system would be unable to run without the technical expertise and systems knowledge of Paul Stott, the ICT manager, who acquired a (male) part-time assistant during the period of the fieldwork. Kingbourn was similarly staffed, also by men. A teacher was identified as ICT co-ordinator, which was not the case at Brythnoth where there was widespread confusion over who was responsible for the overall development of ICT in the school. Working practices for the support staff in both school offices had changed with the advent of personal computers and increasingly computerised records. In addition to word processing, in the Brythnoth office, a computerised optical marking scheme was used for registering students and checking absences.

The location of large numbers of computers in specialist rooms has obvious implications for the integration of ICT into the curriculum and the type of pedagogy and learning that this encourages. 'Computer suites' such as those existing in both Kingbourn and Brythnoth (*Figure 57*), are generally designed for individual work rather than collaborative group interaction. The technology and the layout of the rooms is far

from incidental in this. The cultures of computing identified in three schools by Holloway *et al.* (2000) were influenced by multi-layered and overlapping institutional cultures, official and informal, and they intersected strongly with the gender (and hegemonic sexualities) of the pupils. The study indicated that (gendered) cultures of computing among the pupils arose not simply as an inevitable response to the spread of ICT (Bingham *et al.*, 1999), but also as a reciprocal function of the institutional cultures and relations within and beyond the school. At Kingbourn, where resource areas housing several computers has been created adjoining department offices the opportunities for students and staff to interact on projects ‘outside’ the formal classroom appeared to be enhanced.



Figure 57
Computer suite
in maths
curriculum
area,
Kingbourn

Like an increasing number of schools, both Kingbourn and Brythnoth had attractive web pages on the Internet with a variety of areas providing general information, for example, about the curriculum or uniform and each had a message from the head teacher on the homepage. Berwick Patterson aimed to develop the Kingbourn website interactively, to become more of an interface between those ‘inside’ and ‘outside’ the

school. This was also seen as a means of developing more 'distance learning' at Kingbourn, partly in order to manage the growth of numbers and reduction in sixth form funding. The suggestion was that initially some sixth form courses could be provided at home on an Open University-style model, through a variety of 'learning platforms' supported by tutorials.

The issue of pupils having access to machines of adequate specification was not addressed in these speculations. Thus the medium of communication technologies (such as the television) tend to disappear, along with consideration of economic or social constraints in their mobilisation (Macgregor-Wise, 1997). Material and communication structures were seen as potentially opening up new spaces and changing the boundaries between work and home for pupils and staff. This was also presented by the head teacher as potentially a means of redistributing agency:

'Home learning is a shift of responsibility; homework is what teachers set, home learning is what learners do. And that's where we want to go. So it's a question of making learning available rather than thrusting learning upon people... People should be able to achieve life/work balances in a more controlled way' (Berwick Patterson, new head, Kingbourn).

However, he did not believe this reconfiguring of relationships would replace the classroom:

'The computer is moving the teacher from being the sage on the stage to the guide by the side. But it doesn't take the classroom away. There are always going to be times when the teacher is the wheeler and dealer in knowledge and the conduit whereby learning takes place' (Berwick Patterson, new head).

In discussing whether distance-learning and flexible delivery is likely to make the traditional school campus redundant, Fisher (2002a) argues that the dispersal of collaborative learning will be resisted because of the fundamental importance of social interaction to humans. The whole area of collaboration in the virtual spaces of the web and physical places in front of a computer are the subject of considerable research, at the Open University and elsewhere (Scanlon, 1999; McCormick, 2003; Avila de Lima, 2001). The development of computer-mediated communication has created new social 'cyberspaces' of interaction which are beyond the scope of this study, although the implications for teacher workplace communities is mentioned in chapter nine. This again points to the need to reconfigure notions of 'local context'.

There was generally at Kingbourn a greater recognition of the shift in power relationships that could be encouraged by the development of ICT, both between teachers and pupils and between colleagues in the mediation of the new technologies. Both schools used computer packages to provide individualised information on/for pupils, for example in the form of their timetables, examination attendances and projected grades. At Brythnoth during the fieldwork period, a system called rather disingenuously 'Idealist' was being explored as a means of gathering and accessing information, as described by the deputy head in charge of the timetable:

'You record everything. The head of year can simply look at any student and see every referral they've had in the past week. They can pick out things like everyone who hasn't put their homework in for particular subjects or all subjects, the amount of information for target setting, those who've achieved or over-reached their targets, those who are not meeting their targets in one area, in all areas. Its so powerful and a whole recording process' (Heston Billings, deputy head, Brythnoth).

Such a potentially panoptic system of surveillance and classification (of both teachers and pupils) depends both on those inputting and accessing the information. Studies of virtual environments in schools indicate the crucial importance of integrating the technology with working practices and cultures (Fisher, 2002a). At neither school to my knowledge, despite the importance of ‘student voice’ at Kingbourn, were pupils consulted over the introduction of such totalising systems.

7.0 The department as a network

The importance of the subject department as a feature in the workplace of secondary schools was established in the previous chapter. The ‘concrete realities’ of teaching



Figure 58
Assemblage of
objects, P.E. office,
Kingbourn

certain subjects were obvious in the data images taken of departmental workrooms in this study; for example, (*Figure 58*) in the P.E. offices, assemblages of measuring tapes, stopwatches, fixture lists, balls and trophies. Here I want to explore the idea of the

department as an actor-network where such objects are not simply representations or reifications, but potentially active elements.

Law (1992) suggests that if a network is successful then it disappears, to be replaced by the action itself. So it may be with 'the department' or indeed the P.E. or science teacher. Giddens (1985) argued that although much social life is perceived to be systems of face to face interaction embedded in place, a major consequence of modernity and networks of communication is the experience of 'time-space distancing'. Harvey (1989) refers to the articulation of 'global' processes in 'local' settings as 'time-space compression' resulting from: *'systems of mediated (that is indirect) interaction that dissolve and recombine local networks of interpersonal relations across an increasingly global space* (Gregory *et al.*, 1994, p.98).

Scrutinising the department as an actor-network extensive in space-time overcomes what is perceived as a dichotomy between global/local. Communities in schools are more than bounded, small-scale, 'local' groups in face-to face contact, as suggested by orthodox notions of culture, but are networks of relations extending through (as) space and time, where a network is effectively local at all points. Massey observes that 'face to face' relations are never just that, but are *'articulated moments in networks of social relations and understandings'* in which *'experiences and understandings are actually constructed on a far larger scale than we describe as the place itself'* (Massey, 1993, p.65-66).

While the organisational culture metaphor suggests a pre-existing monolithic entity that can be easily 'transformed', Actor-Network Theories and a spatialised notion of communities of practice suggest an emergent and contingent context which is realised

through a focus on developing practice (Fox, 2000; McGregor 2003). Thus departments as communities are not just situated in space-time but are ways of producing and organising networks. These concepts are exemplified through a consideration of actor-networks in the science department at Kingbourn.

7.1 Networks of interaction

The science office and the ‘prep room’ at Kingbourn were the repository for information and artefacts that teachers needed to refer to on a daily and sometimes hourly basis. In both schools in the science prep room were the sheets where teachers requisitioned equipment in advance and the hardworking technicians who regularly provided seventeen to nineteen different lessons worth of equipment daily. As was the case with technicians in other departments, such as Design and Technology, they conjured or created the materials needed in various ingenious ways, growing plants in the greenhouse, or using organs such as kidneys after the slaughter of the farm animals (at Kingbourn).

In the department office there was a filing cabinet of pupil records which teachers referred to and regularly updated, particularly at the end and beginning of modules, and a networked computer used to store and call up schemes of work. On the walls were neatly displayed and up-to-date information sheets including, timetables, class lists and photographs of the students in the module groups (*Figure 59*). Thus teachers were drawn to the room to refer to these ‘objects’ which were very much part of the stimulus and the substance of the ongoing conversations between them, for example in negotiating equipment for lessons or enquiring after the progress of a particular pupil. On the door was the white day board on which were written immediate messages (rather

than the weekly bulletins which were distributed as well as posted); this also brought in those who might otherwise have not come into contact with the other department staff because of their greater responsibilities elsewhere. Certain objects might be seen as having greater agency, as they were not available to individuals away from the room. Hence the photographs of groups who might be quite new to a teacher were attracting people to the room; they were exerting power in transacting themselves through the social.

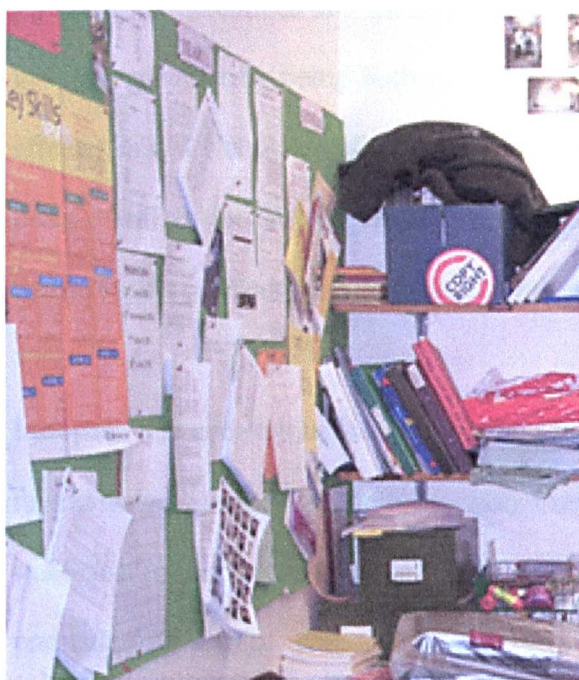


Figure 59
Science
noticeboard,
Kingbourn

The actants that created the science department as a network space were not simply the humans designated as ‘science staff’ but also technologies and artefacts (such as the curriculum) (Latour, 1997; Law, 1992; Murdoch, 1998). Social interactions were thus one important element among several. As previously described, this was part of a deliberate strategy on the part of the curriculum area leaders at Kingbourn to *create* a collaborative workplace, a dynamic enterprise of formal and informal relations and a locus of wider socio-spatial flows. Discourses were deliberately drawn on from ‘beyond’ the department such as the involvement in cross-curricular projects and the work on cognitive approaches, which was to become a focus for improvement work throughout the school.

7.2 The operation of power at a distance - National Curriculum as immutable mobile

To understand how activity is connected to learning and knowledge, Nespor (1994) emphasises that it is necessary to understand how distant action is brought into and made manifest in particular settings and how activities in these settings are connected to activities elsewhere. ANT is particularly concerned with flows of power and thence how knowledge is produced and transmitted and translated. Latour suggests that knowledge is made *effective* by being both immutable and mobile - it can be fixed (by network effects) into a stable set of relations/associations which can travel beyond its spatial point of origin to have an effect elsewhere. He uses the term '*immutable mobile*' to define such a configuration (Latour, 1999; Law, 1992).

I propose that a state-mandated curriculum acts as an immutable mobile - a stable set of relations that configure space-times away from its origin. In a 'network logic' a shape is stable if it is configured within a stable set of links with other entities, held in place by a particular network of relations (Law & Hetherington, 2001); likewise, inscriptions into texts, images graphs etc. are central to knowledge work. Action is possible at a distance by inscribing and stabilising knowledge/power as work so that it can travel across time and space.

The origin of an actant such as the National Curriculum in England and Wales is itself a network- it is obviously not simply the printing of a book. The National Curriculum, as other curricula in schools, was created through processes of planning, ordering (and resistance) by the interaction of committees, subject associations, pressure groups etc. (Ball & Lacey, 1995; Goodson, 1993). Thus through debate and consultation knowledge is fixed, in the case of the National Curriculum, through legislation, in order that it can

be moved to schools and classrooms to have an effect at a distance. It is kept in place as a stable set of relations by the documents themselves and the supporting criteria for testing, the panoply of tests and textbooks which reproduce the criteria as well as inspections, subject association and examination board meetings and deliberations. Here we may see Foucault's ordering (1980, 1988). Power does not reside in the central body *per se* but acts through technologies such as normalisation, establishing an hierarchy through examinations and inspection and judgement around a 'norm' (Ball, 1990c).

Certain discourses are not just signifiers, but have a powerful normalising/classifying effect at a distance, particularly where groups fail to interrogate and modify them for local conditions. For instance, in the Kingbourn science department, the National Curriculum and its assessment was taken as a starting point for intense scrutiny and collaborative adaptation. The joint curriculum planning meetings observed, demonstrated the mobilisation of collective experience and existing public knowledge and new knowledge generated through joint enquiry into practice. Enabling conditions included the web of joint understandings and language generated and reinforced through proximity, and continual interaction as a practice-relevant configuration of people, technologies and artefacts. The overt value that was placed on collaboration and the importance of openness and trust has been described. At Brythnoth, the dysfunctional nature of relations meant that individuals either modified the curriculum idiosyncratically, or simply transferred it whole into practice. Not surprisingly, the former reflexive approach was more likely to lead to a richer and more dynamic experience for the pupils, as described through the Ofsted reports.

8.0 Distributed identities, learning and technology - The teacher as network effect

A common view of pedagogic practice is that it is embodied by and resides in the individual teacher, rather than being a function of the relationship for instance, between the subject department as a whole, or between the teachers and the community as a practice-relevant configuration. Actor-Network Theories allow us to move away from the traditional view of learning where the social is a pre-given context, to individuals, not as bounded identities but 'knowing locations' in a network of heterogeneous elements extending in time and space.

The discourse of the lone teacher in the black box of a closed individual classroom is arguably reproduced if student teachers are effectively taught a de-contextualised pedagogy in education colleges where:

'Professors discuss pedagogy as a virtual system in which certain pedagogical regimes - almost always conceived in terms of classroom practice - produce certain student outcomes, rather than as real practices slowly accomplished over time and space, continuously modified to deal with change and contingency' (Nespor, 1997, p.42).

This contrasts with the view that teaching is the result of biography, experience and 'long developing relations to materials and communities' (ibid, p.12). Student teachers are more likely encounter this as 'legitimate peripheral participants' in the communities of practice when they spend longer periods of time in departments on 'teaching practice' in schools. With current arrangements in English secondary schools this is therefore likely to reinforce subject affiliation unless a more holistic approach is taken.

The science teacher who teaches electrolysis to a tenth year chemistry class as part of the *Structures and Bonding* module is thus a science teacher because they are at the 'right place' in a network of materially heterogeneous elements. In her classic studies of departments, Siskin found that science as a school subject department was: *'characterised overwhelmingly by the presence in interview after interview of teachers' reference to their equipment, to the material tools of the trade'* (Siskin, 1994, p.178). There is the laboratory, with its electricity points, water and gas lines, the Bunsen burners and flasks set up by the 'lab technicians' who have also ordered and prepared the necessary chemicals according to the requisition sheet and the textbooks and worksheets that the students are using. Mobilised also are the teacher's experience and education, the work of agreeing and writing the lesson plan, with decisions on what is included in relation to the syllabus. We can extend the network further into the school to include the work of the department which decided the composition of the pupil group, the 'timetabler' who located this them in this lab at this time with this teacher, the form tutor who supports the pupils and so on. ANT argues that these relations all have to be in place for there to be such a thing as a 'knowing location'. For those teachers and pupils in science, knowing is a relational effect where pedagogy is a collective accomplishment and learning a situated activity.

9.0 Conclusion

It is suggested that ANT dissolves the notion of context, while retaining its situatedness (Gherardi, 2001), hence schools, classrooms or departments as entities achieve their form as a consequence of the patterned relations in, or rather *as* which they are located. In this conception, networks are not homogeneous, static pathways, nor the actants pre-existing. Instead, heterogeneous actants are mutually constructed through social and network relations as the result of '*contingently stabilised connections produced by the movement of people and things*' (Nespor, 2003, p.4). 'Teachers' and 'pupils' are thus reciprocally constituted with the materiality of schooling and schools, and social practices configured with physical architectures, objects and technologies.

The 'reality' of schools may be experienced and remembered as intensely embedded in the material, with associations strongly linked to places such as the science laboratories, the gym at examination time or spaces of detention/isolation (*Figures 60 & 61*). Such networks of relations achieve and maintain stability often through habitual practices. The 'footprints of practice' may, (Little, 2003) however, be traced through engaging with past and present objects and the technologies and power relations of teaching and learning they represent, thus making the invisible more visible and illustrating that such arrangements are not immutable.

Equally, such a spatial perspective reminds us that artefacts and practices are not simply socially constructed, or outcomes always a result of the social. As Macgregor-Wise observes, the use of Actor-Network Theories '*steers between the Scylla and Charybdis of both technological and social determinism*' (1997, p.119), allowing a greater focus

on the emergence and dynamism of relations that are contingent rather than pre-existing and open rather than pre-determined.

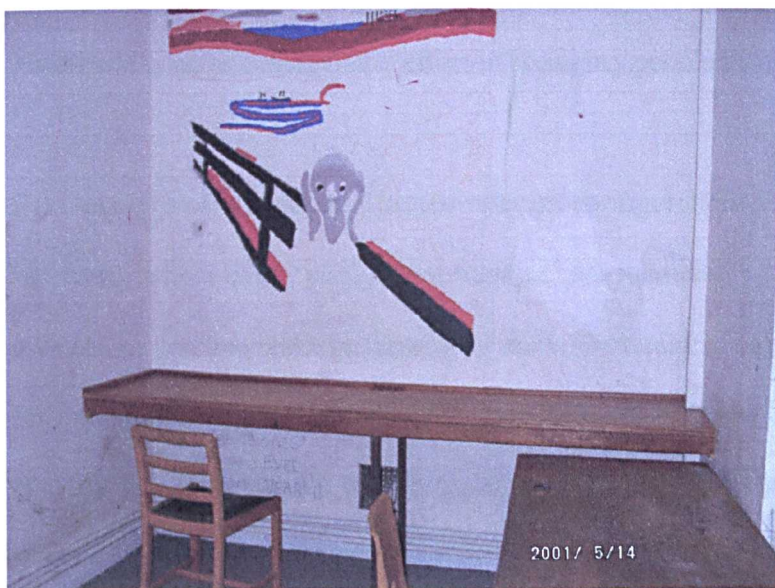


Figure 60
The isolation
area outside
Robert
Rawlandson's
classroom,
Brythnoth



Figure 61
The gym at
exam time,
Kingbourn

Hence, a focus on ‘the department’ as an assemblage of objects, ideas, technologies and people illustrates how the material can be mobilised to influence social and professional relations. This was a relationship of which the leaders of the science department were aware and used to considerable effect in ‘bringing people in’ to interact.

Communities of practice or practice-relevant configurations rely on interaction as actor-networks, where even ‘virtual communities’ are mediated by technology. An important element in practice is the reification of work (particularly as jointly-created knowledge) through immutable mobiles, which can transmit practice between people or across boundaries, for example between departments. Professional communities, however defined, are thus not simply embedded in multiple contexts but are actively created with the material (McGregor, 2003b,c). The situated learning through collaboration that appeared to occur as part of the construction of the science department at Kingbourn was contingent on the actor-network. This was particularly manifested in the department office at break time or the classroom planning meetings during the summer term.

ANT, communities of practice and a Foucaultian conception of power all focus on ‘concrete practices’ where power (working) and knowledge (learning) are fused (Fox, 2000). The situated learning perspective developing through the thesis draws attention to the learning that ‘takes place’ through ongoing activities and social interaction in communities of practice. Increasing interest in networks as sets of relations and ties is being shown in education (Lieberman, 2002, McCormick, 2003, Nespor, 2003), particularly in relation to collaborative possibilities for learning.

The identification of locations in which practice-based knowledge can be created, transformed and shared beyond that site is a major aim of the Networked Learning

Communities initiative (Jackson & Leo, 2003). This PhD study suggests that finer-grained work on teacher interaction and learning ‘on the job’, could productively engage with Actor-Network Theories as a methodological tool in addition to talk-based discourse analysis. Interrogating assemblages such as ‘the classroom’ and seeing teachers and pupils as ‘network effects’ rather than discrete individuals may also assist in changing long-established and dysfunctional power relationships.

Chapter Eight - Intersections of gender and space in the school as workplace

1.0 Introduction

Gender is a critical dimension of enquiry into the spatiality of the school as a workplace. Orthodox approaches to studies of the workplace in educational, organisational and geography literature frequently neglect the significance of gender, assuming an apparently neutral stance exemplified by the use of totalising terms such as ‘teachers’ (or staff). This is a weakness of both methodological and theoretical importance, where what is actually the experience of males may be generalised to females (Robertson, 1992). Such androcentric filters also obscure the manner in which gender and space are fundamentally and mutually implicated in the (re)production of social and power relations through everyday discourses and practices in schools (Shilling, 1991, 1992).

This chapter aims to redress this imbalance by drawing on work in the sociology of education and feminist geographies which suggest that gender and sexuality are constructed and contested through institutional (and other) spaces. Our understandings of this are coloured by dominant notions of what it means to be a woman - or man, boy or girl (McDowell, 1997; Holloway *et al.*, 2000). In exploring the mutual constitution of geographies and gender, Laurie *et al.* (1999) employ a tripartite typology to suggest that rather than homogeneous categories or pre-given identities played out in a physical context, different masculinities and femininities are fashioned in and through particular spaces and places. Thus place makes a difference to the masculinities and femininities created and expressed through a ‘local’ culture. Place in this conception is a unique and dynamic juxtaposition of relations articulated with wider ‘global’ processes (Massey, 1993). Spaces are also active in the construction of identities and genders through the

everyday performances that recursively bring them into being. Cultural discourses that encode spaces as gendered, for example, 'home' or the 'food and textiles department' then influence the meaning that people make of spatial practices. Schools as highly specialised institutions illustrate this particularly well.

A growing literature demonstrates that schools are active in (re)producing genders and sexualities (Epstein, 1997; Kenway *et al.*, 1998; Mac an Ghail, 1994) through sanctioning certain forms of behaviour, drawing on, and confirming or challenging wider social discourses and dominant definitions. However, schools are typically constructed as somehow asexual which renders such processes invisible, allowing hegemonic regimes and practices which, I argue systematically privilege boys and men, to persist (Lesko, 2000; Holloway *et al.*, 2000). Schooling and schools influence the perceptions, attitudes and identity of individuals, as well as orientation to learning, and so have an important part in the choices that are made in relation to further education, employment and domestic roles, all of which intersect significantly with gender (Arnot, 2001; Cohen, 1996; David *et al.*, 1997). There is also increasing evidence that gender is a significant dimension of school reform efforts (Blackmore, 1999; Datnow, 1998; Paechter 1996; Hubbard, 2000).

The relational lens of spatiality focused through gender is especially useful in making that most familiar of institutions unfamiliar (Delamont, 1992). Studying spatial practices in schools moves beyond notions of decontextualised gender identities, adding a further dimension to the understanding of how powerful gender discourses are constructed and maintained (Ivinson & Murphy, 2001). Filtering the investigation through gender further assists in an understanding of the spatiality of the school as a workplace and the maintenance of power-geometries that, for example, subordinate certain women.

Although most teachers in both study schools were initially reluctant to identify gendered aspects of the workplace, it became apparent through fieldwork that these not only existed, but also were important in explaining patterns of spatiality. Power matrices are clearly apparent in the multiple and shifting entanglements of gender, social class, age and ethnicity in schools and are approached in the thesis through sections or slices through spatiality. This chapter begins with a brief discussion of the conceptual frameworks informing the stance taken, and reviews the evolving approaches to the study of gender and the workplace. While there is increasing recognition of schools as major sites for gender construction, there has been relatively little work on this in the school as a workplace for adults. The intersection of gender, the workplace and school space is explored through existing literatures and the empirical study.

The gendering of organisations may be reflected in the division of labour (Gherardi, 1994), which may have a spatial expression and constitution. This is explored through the fixed location of canteen or office staff, and the more temporal segregation of part-time teachers and LSAs. The gender dimension of patterned interactions is interrogated in relation to collaboration, focusing on the science department at Kingbourn. This contributes to the theoretical argument for spatialising communities of practice. An important area of work for feminists in education has focused on the relationship between gender and the curriculum and this is addressed through the intersection with space. This reveals that certain places/spaces, for example design and technology (D&T) rooms, are gender coded. Thus expressing the mutual construction of the social and material particularly strongly within hierarchies of power/knowledge in subject disciplines. In such 'gendered locales' (Shilling, 1991) assemblages of people, materials and practises express and embody power relations which begin and end well beyond the space-time of the classroom.

2.0 Conceptual frameworks

The analytic framework of spatiality is used to explore the mutual constitution of gender and space in the school, where space is performed through social relations (of power). I particularly draw on the perspective of feminist geographers and educationalists, which explore the social location of power relations in everyday experiences and places (Acker, 1994; Coffey & Delamont, 2000; Hearn, 1995; McDowell, 1999; Rose, 1993). Feminist post-structural perspectives further inform this focus so there is no one dominant discourse (Francis, 1999; Paechter & Weiner, 1996). The juxtaposition and linking of these literatures allows a more robust scrutiny of the dualisms that continue to dominate Western thought, including research on schools as organisations, yet are wholly inadequate for understanding such complex and non linear entities (Lloyd, 1993; Walkerdine, 1988). I do not take a single feminist standpoint, suggesting the value of locally specific insights, which may challenge essentialised notions of males and females in schools (Griffiths, 1995; McDowell, 1992; Rose, 1993a). Rather than use gender as a fundamental analytical category there should, therefore, be a discussion of *genders*; however, lack of 'space' in the thesis precludes a full exploration of this (Holland *et al.*, 1995; Lather, 1995).

In answer to Skeggs, (1991), Paechter and Weiner (1998a) note that feminist-friendly versions of post-modernism and post-structuralism in educational writing based around Foucault (see Ball, 1990b) do not have to be atomistic or politically paralysing. Concepts from post modernism can be used to build feminist analyses of teachers' work, with more complex layered concepts of identity formation and power which investigate '*ways in which gender power, difference, subject and agency are constituted, though not determined by discourse*' (Coffey & Delamont, 2000, p.12).

Such perspectives highlight the often-contradictory interaction of power, authority and influence in the spatial construction of gender relations. Hence,

'By viewing individuals as powerful and powerless in different discursive spaces (Blackmore 1999) we can begin to develop new feminist understandings of the relationships between gender and power in teaching and the everyday realities of (women) teachers' (Coffey & Delamont, 2000, p.13).

The focus on lateral modalities of power in this thesis adds weight to the investigation of particular space-times and gendered spatialities in schools as workplaces. Here we return to a geographical imagination, which suggests that the location and physical construction of the workplace recursively interacts with the social construction of work and workers, and the relations of power between them (McDowell, 1997). We may thus ask 'How is space implicated in the construction of unequal gender relations? What is the interaction between gender and space in the school as a workplace?' The aim is to suggest spatial stories about the construction of gender difference, to explore and expose these power relations in schools as workplaces (Hanson & Pratt, 1997).

3.0 Studying gender and the workplace

Over the last 30 years, the conceptualisations and representations of the workplace and workers have changed considerably. McDowell, on whose work this section particularly draws, suggests that the *'unsexed worker, labour power unencumbered by a body or any other social attributes'* (McDowell, 1997, p.23) has disappeared from most of the literature. A focus on the lived experience of workers marked by gender, ethnicity, age and so on, is now an important element in research on organisations. In the 1970s however, workers were largely portrayed as entering the

labour market with established gender attributes and women's occupational segregation was generally only noted, or explained through theories of patriarchy (Maddock, 1999).

Occupations and organisations were more commonly described as gender-neutral containers for gendered workers, rather than as constructed and negotiated through social practices and variable through time-space. This is illustrated by the changing gender assignment of secretarial work over time and the mutable aspects of masculinity and femininity this foregrounds (McDowell, 1997). A large body of work now reveals how 'natural', i.e. essentialised, attributes of femininity such as caring or dexterity are set up against masculine attributes to organise labour processes and differentially reward workers on the basis of their gender, linking to wider economic processes and 'globalisation' (Wright, 2000; Hanson & Pratt, 1995). In the mid-1990s there was a move away from a 'gender-in organisation' model to *'theorising institutions themselves as embedded with gendered meanings and structured by social relations of sexuality'* (McDowell, 1997, p.2). Geographers such as Massey (1994) Rose (1993b) and Hanson & Pratt (1995), drew attention, for instance, to the spatial orderings influenced by women's domestic responsibilities.

Early work on organisations as saturated with male power began by looking at how women were 'othered' in the workplace, and only relatively recently has the social construction of masculinities (and to a lesser degree, femininities) been documented (Harlow & Hearn, 1995, Laurie *et al.*, 1999; Rothschild & Davies, 2000). A wider move in feminist-inspired scholarship in this area seeks to understand the complexities of gendered subjectivities and how they are constructed in, and vary between, different sites with institutional structures and practices creating and

sustaining particular versions of gender (Mac an Ghaill, 1999; Connell, 1987; Massey, 1998; McDowell, 2001). Hence '*What it means to be masculine in the Fens is not the same as Lancashire*' (Massey, 1994, p.178) (and presumably what it means to be masculine in French lessons is not the same as in science). There has thus been a growing recognition of the importance of embedded performance and embodiment:

'The narrow range of socially sanctioned gendered identities and ways of behaving are enforced and policed through a set of structures that keep in place dominant and subordinate social relations' (McDowell, 1997, p.31).

McDowell lists the development of research on the gendering of work from diverse disciplines, drawing on a wide range of theoretical perspectives and methodological approaches, with considerable interdisciplinary movement of ideas. However, she suggests that the significance of gender as an important factor in the study of the workplace in geography has until recently '*been assumed rather than investigated*', (McDowell, 1997, p.4) despite the way in which workplace interactions are now taken to gender men and women in multiple ways:

'The workplace is one arena where discursive practices construct acceptable versions of 'men' and 'women'; particular gendered appearances and sets of social relations that are seen as appropriate to the practices and structures of that institution' (McDowell, 1997, p.165).

Thus, investigating some of the micro-scale practices constructing spatiality and gender in particular school settings may suggest further areas for investigation.

3.1 Gender, space and schools

Certain ethnographic studies of schools (Mac an Ghail, 1994; Gordon *et al.*, 2000a; Connell, 1993), have illustrated the complex and shifting intersection between gender(s), power and space by focusing on the operation of micro-powers and resistances through which hegemonic versions of masculinity and femininity are played out. Micro-political analyses (Ball, 1987; Paechter & Head, 1996) have also focused on this level of interaction, but generally without an overtly spatial focus.

The intersection of space and gender in schools has also been explicitly addressed through sociology (Coffey & Delamont, 2000; Paechter, 1998b, Shilling, 1991). As discussed in relation to the classroom, feminist studies have noted the spatial dimensions to the construction of gender (Askew & Ross, 1988; Clarricoates, 1987; Cohen, 1996; Dixon, 1997; Ivinson, 1999; Thorne, 1993). The developing literature on masculinity and schooling focuses on the social construction of masculinities, illustrating how they intersect and are expressed differently between class, ethnic, sexuality and other groupings in different space-times (Epstein, 1997; Raphael Reed, 1999; Lesko, 2000; McGregor, 2003a). Work on the sociology of place and gender is thus active in developing new theoretical tools with which to re-conceptualise context, including those of spatiality and Actor-Network Theory.

A few studies are now emerging which, however, move beyond this in focusing on the *mutual* construction of space and gender in schools, notably the work of Jan Nesor (1997, 2000b) studies of children's geographies (Holloway & Valentine, 2000b; Holloway *et al.*, 2000) and current research interrogating place-specific masculinities (McDowell, 2001). Here there is a more conceptually robust literature developing which

accepts that masculinities must be studied in relation to femininities and their localised discursive expressions - locating gendered identities as a particular spatiality.

3.2 Gender and schools as workplaces

In this thesis the school is framed as overlapping and interlocking space-times through which everyday social practices and patterns actively construct identities, genders and sexualities (Holloway & Valentine, 2000a; Holloway *et al.*, 2000). This re-emphasises the salience of gender not as a given, but as a set of relationships (Thorne, 1993). Totalising conceptions of 'the school' mask great variations within and between types of schools, which intersect with ethnicity, socio-economic status, class and the homogeneity of the local community (Arnot, 1996; David *et al.*, 1997). Significant sector differences are glossed over in much of the educational literature, for example on school improvement. While it is acknowledged that primary teachers are predominantly women, this is increasingly expressed as anxiety over the 'feminisation' of the workforce (Bailey, 1996). The debate over whether the lack of male teachers in that sector impacts negatively on the 'achievement' of boys appears to reinforce essentialist positions (Balchin, 2002; Burn, 2002). It may be noted, however, that the boys do not do so badly when they return to schools as teachers. In 1998, while only 16.6% of primary teachers were males, they took 57.3% of primary Headships (DfES, 2000).

The aggregation of data on 'teachers' thus hides many inequalities. It creates monolithic categories encouraging the assumption that the lives of men and women are the same (which they may well be in some cases). Likewise, focusing on teaching as abstract work or 'a job', effectively absents the female body and the realities of many women's lives, juggling domestic responsibilities and work 'outside the home' (Acker, 1990).

Although many women have the common experience of combining work in and outside the home, there are widening differences in occupational status and conditions of employment between class groups, particularly revolving around childcare, where some women depend on low-waged others in order to 'go out to work' (Bondi & Christie, 2000; Vincent, 2002).

It is important to challenge the careless premise that categories of male and female, or even masculinity and femininity are homogeneous, and feminist geographers also remind us that gendered space means more than feminised or women's space (Laurie *et al.*, 1999; McDowell, 1999). However, Karina Leathwood did take pictures of the female staff toilet (*Figure 22*) '*Where I have lots of conversations, put the world to rights and complain about things*'. She suggested that this space was particularly feminine, not because of the pot-pourri and dried flowers but '*men miss out on chats in the toilet- women chat and do networking*'. This resonates with research that suggests although they may have less structural power, (Paechter, 1996,1998a) women may have more interpersonal support, which allows them to undercut such positional power (Datnow, 1998; Bailey, 1996). There are also spaces of masculinity and some spaces in the schools were observed to be coded masculine, for example at Brythnoth where the aggressively phallic balloons at Christmas time reflected the 'macho' stance of the Site Manager, Steven Calthorpe (*Figure 62*). This was also the space where the declining number of smokers gathered.

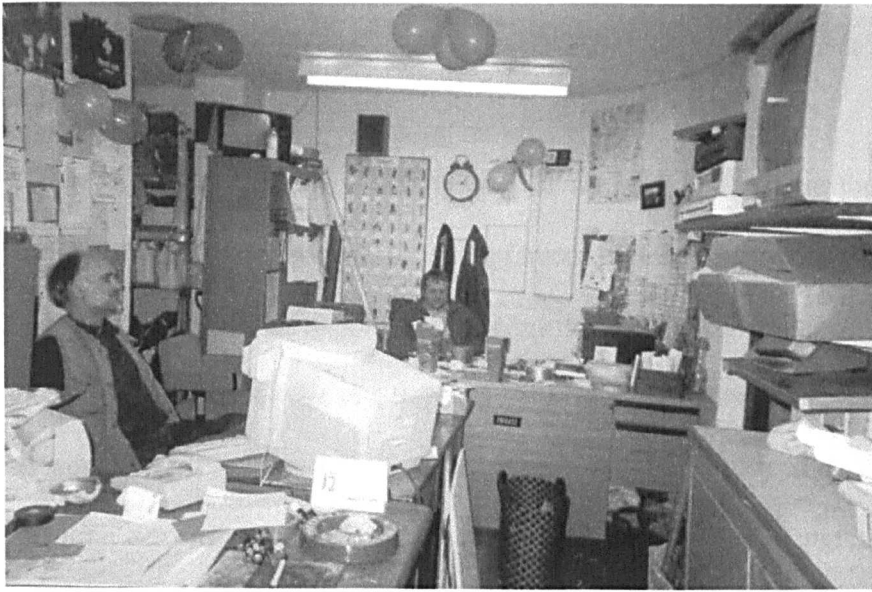


Figure 62
Site
manager's
office at
Christmas,
Brythnoth

4.0 Power geometries in schools as workplaces

Divisions of labour along gender lines in schools represent a key element of institutional power, evidenced in the disproportionate share of promoted posts held by men and the preponderance of women in support roles. The staffing structures in both of the study schools reflected national patterns, with males dominating the senior management/leadership teams (75% at Brythnoth and 72% at Kingbourn) although the numbers of male and female teachers were broadly similar (Coleman, 1996: Hall, 1996). At Brythnoth four of the seven (57%) heads of faculty were female, rather less than the 66% of subject-based staff who were female, while at Kingbourn 66% of analogous posts were held by men, likewise the majority of cross-curricular co-ordination posts. In this section, the power-geometries of the school staff are illustrated through a consideration of different work roles and practices and their spatial manifestation, particularly in relation to those groups of staff who are relatively marginalized, yet without whom the school could not function.

4.1 Support Staff

Support staff are critical to the running of schools, yet to date there has been little scrutiny of this (Mortimore *et al.*, 1994; Greene, 2002). Recent DFES research however, identified 16 categories of jobs, which contributed to pupil's education through work in the classroom, support for learning and behaviour and administrative and organisational support. Such jobs have grown in recent years and in January 2002 there were 216,000 full-time equivalent support staff employed in schools in England and Wales, an increase of more than 50% since 1997 (DfES, 2002). As many are part-time workers, numbers in schools will be considerably greater. At Kingbourn, adults in support roles who did not formally teach, comprised a third of the total staff (56 out of 169) and at Brythnoth 44% (47 of the 105 total). The majority of support staff were female (at Kingbourn 81%), with a complex positioning in the 'power-geometry' of the school.

At Brythnoth 85% of the support staff were female. All of the LSAs, librarians, the reprographics technician, clerical staff and those involved in catering were female. Of the technicians supporting departments, one out of five was male and the male computer network manager worked in 'the office' with five women. Typically, the three site officers and their assistant were all male. Schools depend on such gendered social practices for their operation, with women taking on low-paid and relatively low-status caring and serving work (Ball, 1987; Shilling, 1991). This division of labour was expressed through spatialities which were acknowledged by staff, for example where the majority of women in 'the office' were segregated by their immobility, being continually on call for children, teachers and parents. The time-space paths (Rose, 1993b) of these women, including the head's secretary acting as a conventional

‘gatekeeper’ at Brythnoth (Prosser & Schwarz, 1998), differed markedly from those of the teachers.

Space-forming practices operated through the provision and regionalisation of centralised support services, and gender appeared active in the construction of those territories. Karina Leathwood (head of R.E. at Kingbourn) photographed ‘her workplace’ and asked support staff to pose in ‘their areas’, identifying them as among the five people with whom she worked most closely. The spaces inhabited by support staff were often highly specialised, as shown in the images taken by other teachers (*Figures 63 to 68*) although at Kingbourn some staff were peripatetic, working administratively across departments.

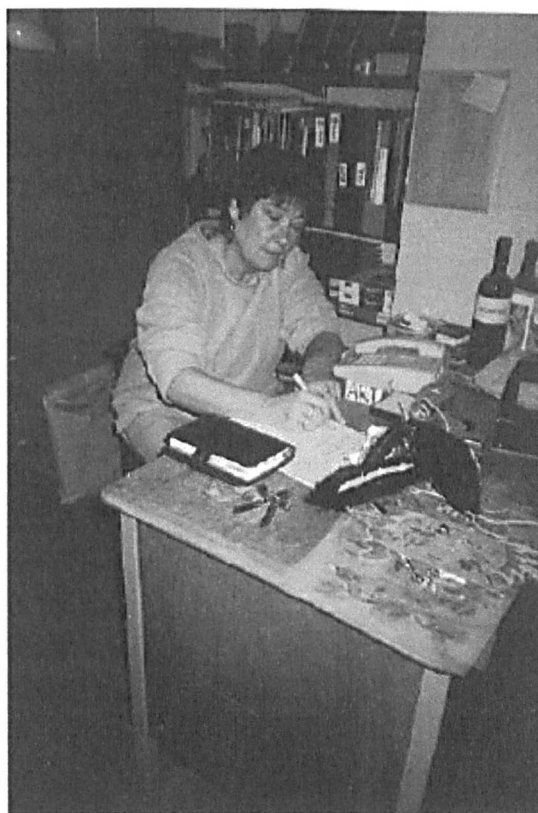


Figure 63
Art technician,
Brythnoth

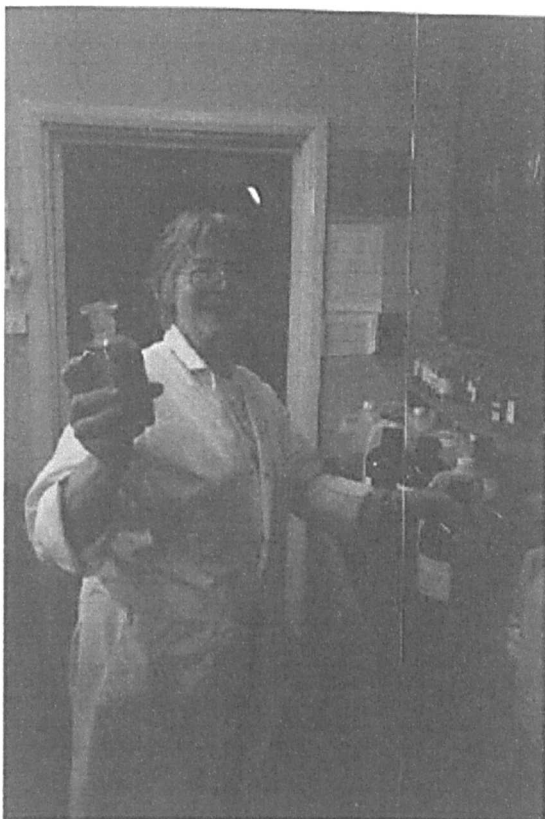


Figure 64
Science
laboratory
technician,
Brythnoth

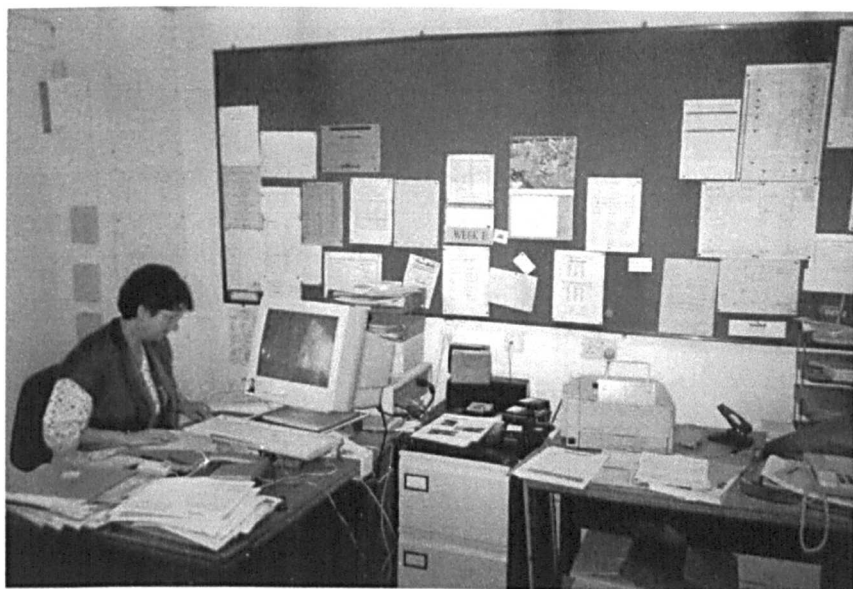


Figure 65
Secretary,
sixth form,
Kingbourn

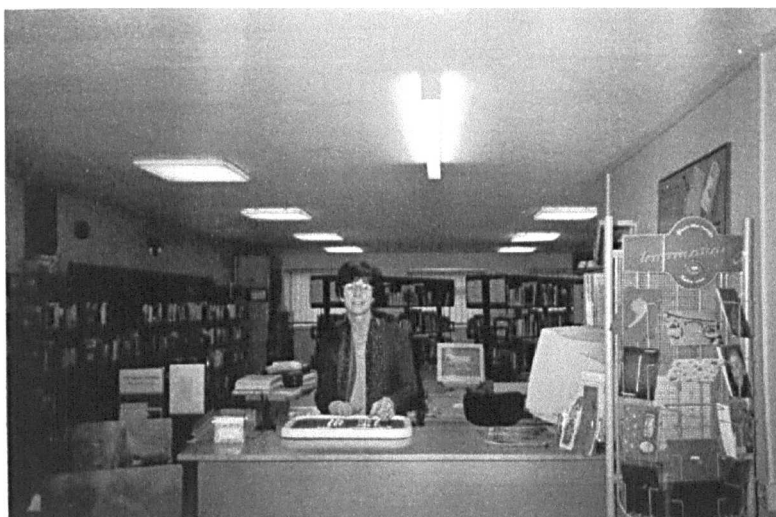


Figure 66
Librarian,
Kingbourn

The validity of the images lies in the meaning they had for the teachers, but the pictures of the technicians also beg the question of how these people felt about their work and the very particular domains with which they were mutually constructed (Adelman, 1998; Prosser, 1998). For example, the reprographics room at Kingbourn was represented by some (*Figures 36 & 37*) as the heart of the school, with the teachers (particularly women) ascribing this to the importance of materials to their work, the friendliness of the mother and daughter team who ran it, but also the opportunity for ‘chats’ and serendipitous meetings with colleagues.



Figure 67
Mother . . .

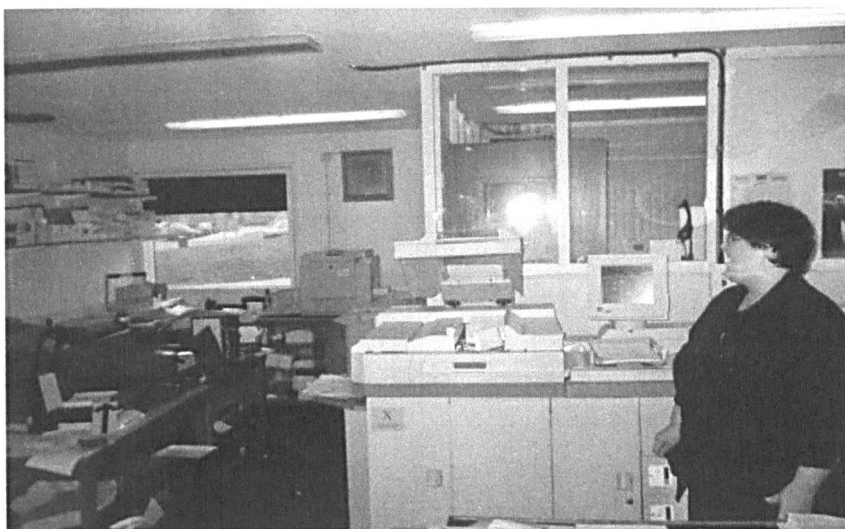


Figure 68
 and
 daughter,
 reprographics,
 Kingbourn

The conventional invisibility of the service structure of the school was illustrated by the omission of all the names of canteen staff except the catering manager in both school handbooks, although when staff photographs were displayed, these workers were among them⁴⁵. However, in the canteen, women were substantially visible in their service role (though arguably in an ambiguously powerful position as ‘dinner ladies’ in the eyes of pupils), but not necessarily as the expert catering workers that many of them were. Their bodies were clearly marked through their aprons and uniforms (*Figure 69*) which associated them with a particular place and status. This was a very different socio-spatial organisation to the site officers who were far more mobile. Thus the production of gender was manifested through the spatial division of labour which demonstrated and confirmed to pupils that these are the kinds of jobs and activities that women (and men) do. Such roles were played out particularly in areas gender-coded female, apparently through the association with the home or services (Hanson & Pratt, 1995).

⁴⁵ In a manner reproduced in this chapter.

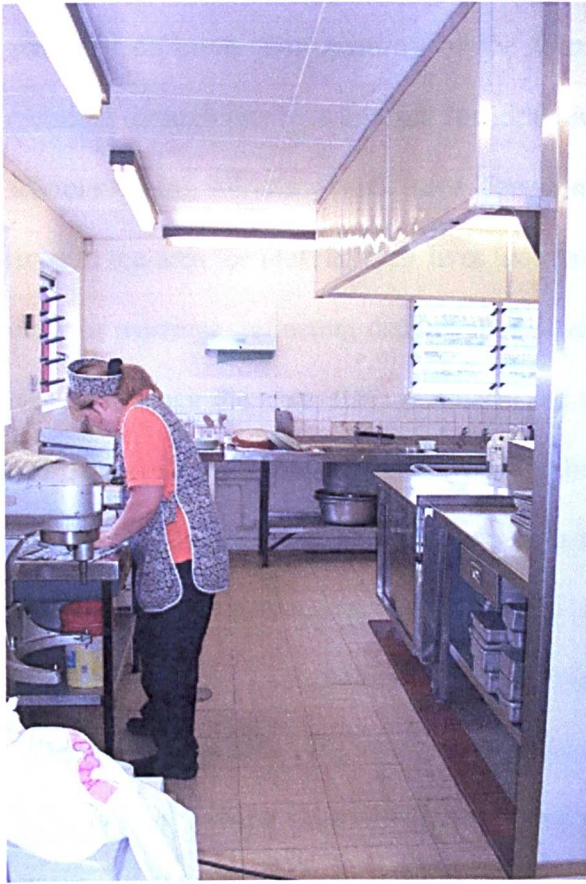


Figure 69
'Dinner lady' in
Kingbourn
canteen

In both schools the wide variety of support staff and the roles they played, were valued and acknowledged, although their access to and participation in decision-making arenas was highly variable and generally limited. At Kingbourn, there were regular and minuted NTA meetings, attended by workers as diverse as the reproduction technicians, librarians, and the car-parking attendant. However, these were more like briefings, *'there we are informed rather than involved'* (Selma Richardson, head science technician) and a meeting on the development of a performance management system for NTAs (which was also being created at Brythnoth) generated little discussion, although it was invited.

The trajectories that had brought support staff and full-time teachers to the school were generally different. The majority of the former lived near the school and had been recruited through previous contact, for example, through being a parent of a child at the school or doing voluntary work there. The women I talked to at Brythnoth had generally lived in the area for most of their lives, not having been away for further education, for work or marriage, reflecting distinct spatialities (Hanson & Pratt, 1995). However, this was not always the case, for example in the science department at Kingbourn, Selma had a degree in microbiology, and John had been made redundant from a well-paid job in industry. The librarians at Kingbourn both had degrees and one particularly resented the very limited professional development opportunities or progression available in support roles. There was general agreement that;

'Most come into the job as it fits with childcare- the school holidays, it is local, convenient; I enjoy working with the people I work with. The environment is awful and the pressure bad, the pay is poor- we only have term time contracts (the salary is £11,500. You couldn't support a family. There is debate about salaries but nothing seems to happen. The technicians here used to be all women- it fits in with families' (Selma Richardson, head science technician, Kingbourn).

Thus different aspects of spatiality contributed to the construction of a web of highly gendered relations partly expressed through conventional gender topographies of spatial mobility and range.

4.2 Science technicians

Although there was better technician provision at Kingbourn, the pattern of labour division remained very gendered, with the computer, media (video) and D&T technicians being the only males. In one of the few studies on support staff, Busher and Blease comment that *'sex differentiation by role is striking - gender differences of role and function underlying formal power differentials between roles as well as personal perspectives brought to the roles'* (2000, p.102). Staff interviewed agreed about the importance of the science technician's work, which was predominantly preparing equipment for lessons. Much of the work could be described as quasi-domestic, washing and cleaning and with what Louise Macey, a 'lab tech' at Brythnoth described as a considerable amount of *'make-do and mend and scavenging from builders'*. Busher and Blease suggested that such roles have traditionally been shaped by predominantly male science teachers, within a subject-coded masculine, to fit socially stereotypical views of female roles.

In both the schools in this study there was a highly organised system of requisitions that teachers were asked to complete in the prep room a week in advance to allow the preparation of essential equipment and supplies for science lessons (*Figures 70 & 71*). As described in chapter seven, this was an integral part of the department as an actor-network mobilising people, technologies and artefacts to enable the enactment of the National Curriculum in which practical sessions are a crucial element. While these systems seemed to generally function efficiently, they were highly dependent both on forward planning and on strong social bonds. These were regularly tested by the head of science at Brythnoth, who was perceived by the majority of the science staff as disorganised and reluctant to delegate. Indeed, the science department's contribution to

the whole school open evening, rather than strategically designed by the science teachers, was substantially orchestrated by the lab tech's persistent and increasingly anxious requests for equipment orders.



Figure 70
Prep room,
science
department,
Kingbourn



Figure 71
Prep room
requisitions,
science
department,
Kingbourn

Teachers were able to exert their greater organisational authority by asking the lab techs to help them prepare for a lesson irrespective of their plans; this usually took the form of negotiation and persuasion (in a variety of forms, depending on the situation of the supplicant). The technicians talked of the importance of flexibility and humour in

maintaining relationships strained by the contingency of lesson requirements. Louise and Estelle at Brythnoth were acknowledged as important sources of emotional support by staff, and the downstairs prep-room on the science corridor frequently offered temporary refuge from the exigencies of unfriendly classes and the pressures of working in a fragmented and relatively unhappy department.

The female technicians in both schools echoed Busher and Blease's (2000) respondents in describing how their hours fitted in with roles as carers in their family and how the work was an important vehicle for their interest in science (which was also expressed through continuing further study in three cases). Despite the poor working conditions and pay, they enjoyed their jobs and were committed to the school. At Brythnoth, the two women took (unpaid) part in many other aspects of school life such as running a stationery stall and after-school netball team. In both cases these represented important activities that would otherwise have been unlikely to happen, in contrast to the organised provision at Kingbourn.

In both schools, the technicians were a crucial element in what constructed 'the department' and were fully involved in social events (in fact at Brythnoth they tended to organise them). Outside the requisition sheets, the main interactions of teachers and technicians were informal and on an everyday basis. The proximity of the prep rooms to the laboratories and the huge number of objects (and creatures) that were stored there formed an important basis for association, although technicians were often found in the science staff room at the beginning of break time at Kingbourn.

It has been suggested that the organisational boundaries of the science department at Kingbourn overlapped with a vibrant community of practice, of which the technicians,

including the (female) farm manager, were undoubtedly part and, in that respect, ‘legitimate peripheral participants’ (Lave & Wenger, 1991). They took an active role in the development of the curriculum, checking newly created work schemes (for feasibility) and helping sixth formers with their coursework projects. There was an interweaving of formal and informal processes and relationships maintained by trust and a sense of shared purpose (very much around science) and ‘belonging’.

4.3 Part-time teachers

A further element in the power-geometries that constructed the spatialities of the school was the position of part-time teachers and supply staff. The latter provide an interesting insight with their ‘insider/outsider’ position. Brythnoth was so reliant on supply staff that there was a special handbook to orient them to the physical and organisational structure of the school. Several of the teachers who had previously been made redundant returned to this type of work to maintain salaries and relationships, but new supply teachers regularly expressed surprise at the empty Brythnoth staffroom.

In both schools, the majority of part-time staff were women, reflecting national patterns (DfES, 2002; Acker, 1994). Their motivations for this mode of employment revolved around the balance of work and home life, particularly caring for children or elderly relatives. Health issues and stress reduction were also mentioned, along with a ‘quality of life’ move towards retirement. The construction of the timetable relied on the co-operation of ‘part-timers’ in changing their work patterns at both schools. This workplace (rather than workforce) flexibility intensified informal negotiations between teachers, for example around hours and assigned classes, and institutionalised uncertainty for both the part-time staff and timetablers (Young & Brooks, 2000). In the

previous academic year for instance, Ruth Whittacker, in the geography department at Kingbourn did not have an agreed timetable until two months into the term.

Young and Brooks (2000) suggest that the micropolitics of part-time teaching are thus particularly intense. Power differentials and continual informal (re)negotiations mean part-timers (who are predominantly women and usually spread across departments in secondary schools) do not necessarily form interest groups (Hoyle, 1988), and are hence particularly vulnerable to unrealistic or unfair expectations. They identify a 'core-periphery situation' where the interests of the part-timers are clearly subordinate to those of the full time staff, the pupils and the exigencies of the local economic situation.

Ruth Whittacker acknowledged that it was *'easy to get left to one side, not knowing what is going on'*, particularly when part-time staff were *'not party to the decision-making over a cup of tea'*. She had developed *'strategies for survival'* to maintain the face-to-face communications with other members of the department which she felt were crucial. These included coming *'into work'* at times when she was unpaid, to have lunch with colleagues or to complete tasks such as creating worksheets collaboratively. Ruth saw her role in the department as evolving to *'fill the gaps'*, for example when colleagues took maternity leave. She complained mildly that this meant she was usually allocated distant classrooms, which required considerable ingenuity in engineering resources such as texts and videos to arrive at the same place. The lower status of the job was illustrated for her by a sixth form student's concern at being taught by a part-time teacher, to which Ruth replied *'But I am not a part-time geographer!'* Although given opportunities to participate in professional development, in common with female colleagues *'of a certain age'* in humanities ('the Dorothies') Ruth felt that she, like

other part-time women had not been encouraged in her career at Kingbourn in the way that some men, and younger, full-time women had.

4.4 Location of interactions in the science department at Kingbourn

Gender as a dimension of teacher workplace cultures has been suggested, if not explored, by a number of studies in education. The large-scale Teacher Quality of Worklife Study (Louis & Kruse, 1995) identified a positive relationship between females, collegiality and non-traditional leadership. Nias Southworth and Yeomans (1989) described small-scale collaborative cultures in primary schools where the majority of staff were women. As previously noted, Hargreaves (1994) ascribed gendered characteristics to collaboration (feminine), also contrived collegiality (masculine). However, despite increasing research on the affective dimensions of teaching as work (Golby, 1996; Hargreaves, 2002; Little, 1996; Sachs & Blackmore, 1998) the lack of conceptual clarity over collaboration and collegiality make this simply a heuristic.

Shakeshaft (1991) presented extensive American research to suggest the existence of a collaborative organisational culture particular to women, and other studies have identified 'feminine' styles associated with transformational leadership (Eagly *et al.*, 1992; Grace, 1995; Hall, 1996; Jantzi & Leithwood, 1996). Although supported by socio-linguistic work such as Tannen's (1991,1994) and in feminist geography and organisational studies (Laurie *et al.* 1999; Gherardi, 1994; Maddock, 1999), the notion that women are necessarily more 'collaborative' than men is problematic, not least in its essentialising formulation. Reay and Ball (2000) argue that many 'female' qualities vary according to differentials of power, and caution against the subtler and totalising forms

of control that ‘feminine styles of management’ may create. This has resonance with the feminine ‘noisy’ surveillance documented by Robinson (2000).

My previous study (McGregor, 2000b) showed gender differences in reported interactions and while this has not been fully explored in the PhD, analyses on the basis of gender were undertaken initially in relation to the science department at Kingbourn. The percentage figures indicate that women spent proportionately more time ‘within’ the department, particularly interacting with individuals or in meetings (*Figures 72 & 73*). They also reported more interaction with student teachers (for whom the female heads of biology and chemistry were mentors). Males reported more interactions ‘beyond’ the department, for example, with the ELT and networks with other schools. Greg Parfitt suggested this was a result of three men holding major responsibilities ‘outside’ the department, also having their own private offices.

The graph comparing the proportions of types of interaction shows that females reported more observation, persuading others to try an idea and dialogue around teaching and learning. These critical practices were especially associated with ITT students, who also tended to spend their larger amounts of ‘non-contact time’ in the department office.

Figure 72

Science department Kingbourn Comparison male/female reported interactions (%)

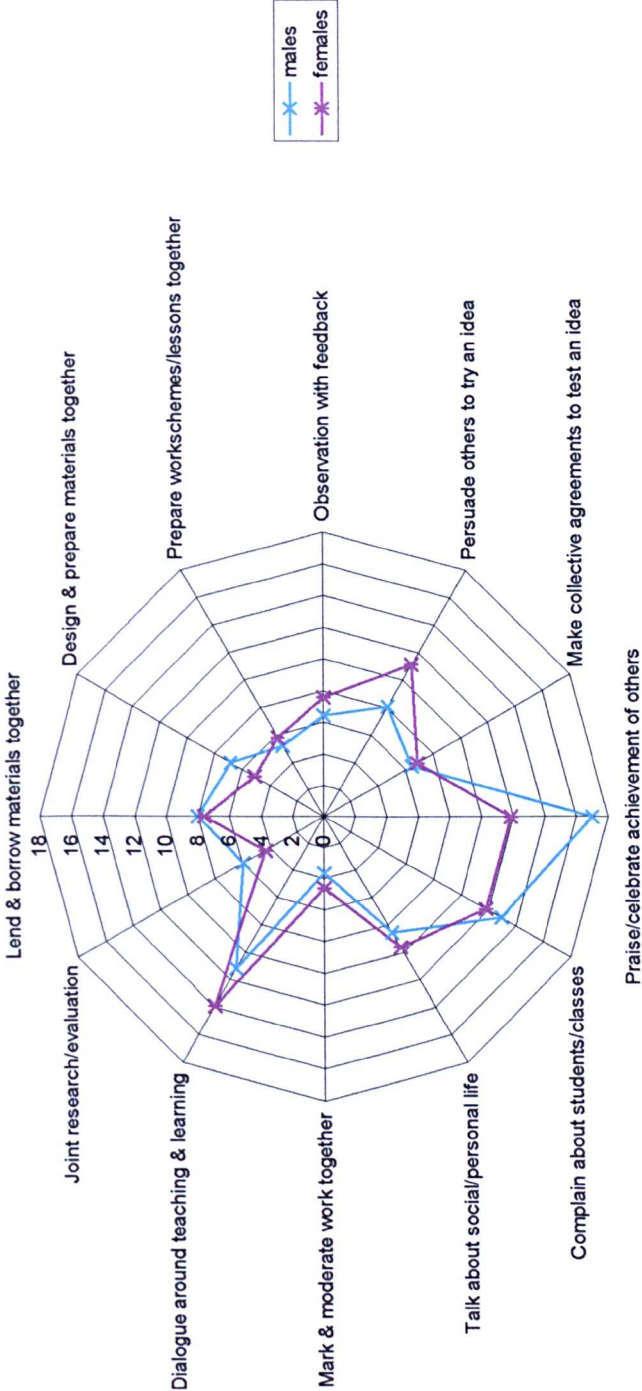
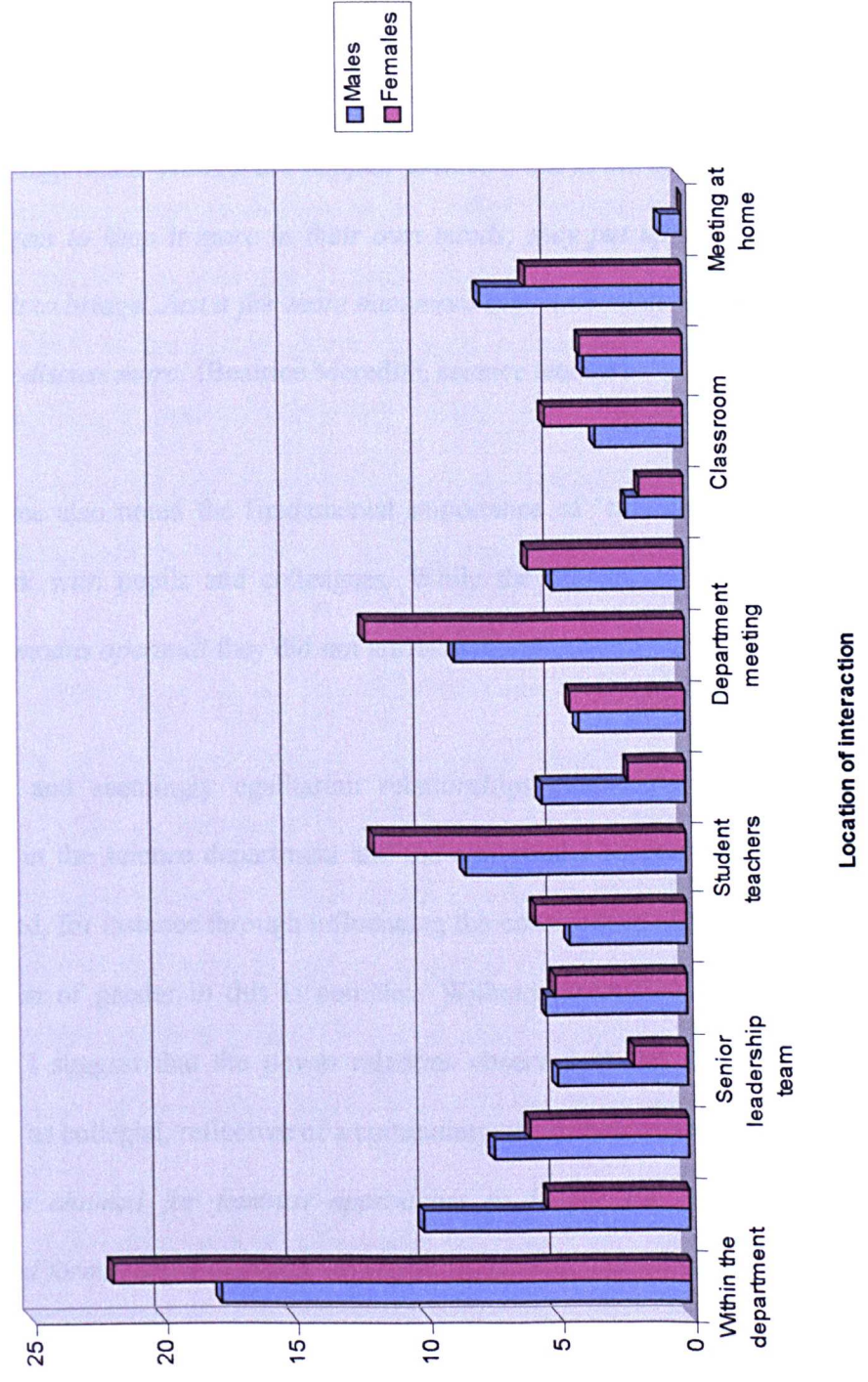


Figure 73

Kingbourn science department. Comparison female/male location of interaction (%)



There was some feeling expressed that the crowded office was '*dominated by females*' (Greg Parfitt, head of science), but of the seven science staff interviewed only three commented on gender differences;

'In our social time we are often talking shop, about individual students or problems with workload, how to implement something. That is mostly going on between the women. You only get certain men doing that. I do think there is a gender difference. Women are happier to have it out in the open and discuss it. Men seem to keep it more in their own minds; they put up a front, which is difficult to bridge. Just a few more men more in female mode then we would be able to discuss more' (Beatrice Meredith, science teacher).

Those three also noted the fundamental importance of 'emotional labour' in their daily work with pupils and colleagues. While they identified it as a particularly feminine *modus operandi* they did not attribute this necessarily to women.

Inclusive and seemingly egalitarian relationships characterised the associations observed in the science department and the opportunity to exercise leadership was encouraged, for instance through influencing the construction of the curriculum. The intersection of gender in this is complex. Without essentialising 'female ways of working' I suggest that the power relations observed in this workplace could be described as collegial, reflective of a community of practice which reflected '*some of the facets claimed for feminist approaches to leadership, balancing generally recognised formal organisational structures against people-oriented values*' (Busher & Blease, 2000, p. 111).

5.0 Gender, space and the curriculum: spatiality and gender coding

Holloway *et al.* (2000) illustrate aspects of the construction of gender and sexuality through particular institutional spaces in their study of gendered cultures of computing. They draw attention to the way our perception and understanding of institutional spaces is actively produced and configured by dominant conceptions of gender and sexuality, with certain symbolic meanings attached to space. The gendering of space and place may be expressed where certain spaces are 'coded' feminine or masculine. Institutional spaces in schools are thus the dynamic product of gendered practices and power relations, which in turn become active elements in constructing gender(s), identities and sexualities. This is perhaps particularly salient for adolescents who are subject to pressures to conform to different masculinities and femininities (Arnot *et al.*, 1998). This is explored particularly in relation to the D&T curriculum areas in both study schools.

Teachers' everyday work in schools commonly involves the transmission and reproduction of particular forms of knowledge, whether academic, non-formal or informal (Coffey & Delamont, 2000). The spatiality of the institution manifests hierarchical power/knowledge relations, most obviously through the school curriculum and the space-times allotted to subjects within it. The curriculum is theorised here as a vehicle for the gendered (re)production of power relations which create patterns of domination and subordination (Stanworth, 1984). Weiner suggests that school curricula are;

'a set of discursive practices in which girls and boys, teachers and pupils, different racial groups are differently and variably constituted as powerful or powerless, good or bad, feminine or masculine, workers or mothers' (Weiner, 1994, p.98).

Hence they reflect and underpin social and political regimes and influence understandings about what it means to be a gendered individual located in a power geometry; *'as much about what it means to be an intelligent pupil, a loyal worker or the good mother as about the legitimisation of certain forms of knowledge'* (Weiner, 1994, p.99).

One focus of feminist research in education has been on the gendering of school subjects and hence the spaces occupied by the staff who teach and the pupils who engage with them (Acker, 1994; Coffey & Delamont, 2000; Harding, 1996; Paechter, 2000). Gender (and intersections with class, ethnicity and so on) mediates the interaction of pupils, activities and curriculum subjects perhaps more strongly in some areas than others. Some subjects are perceived as masculine or feminine and this appears to affect the choices that are made to study them (Arnot *et al.*, 1999; Kenway *et al.*, 1998; Murphy & Gipps, 1996). These choices then have implications for future educational routes and employment opportunities which themselves provide access to different areas of power and knowledge.

While most teachers were reluctant to ascribe overtly gendered associations to particular areas, it was acknowledged in both schools that D&T as a curriculum area was perceived as gendered. This was initially explained simply as due to the structure of staffing (women teaching food and textiles, substantially men teaching resistant materials and design), but the ascription was also revealed in more subtle ways in both schools. The food technology rooms were associated by staff with the pleasures of cakes and aromas of food - suggesting a Proustian olfactory geography, where smells perform a similar function to photographs in relating to more distant space-times. This

is evidenced by Jane Casey's 'mental map' of Kingbourn (*Figure 36*) on which she commented '*This is technology, they baked us an apple pie last week*'.

The associations of 'home' were also strongly suggested by the domestic apparatus of stoves and sinks arranged in units in the food technology classrooms and the 'flats', previously used for demonstrating home-making skills in home economics (H.E.), particularly aiming, Attar (1990) suggests, to make working class girls into middle class housewives. In both schools these flats were now the food and textiles offices (*Figures 74 & 75*).



Figure 74
'The flat'
Brythnoth

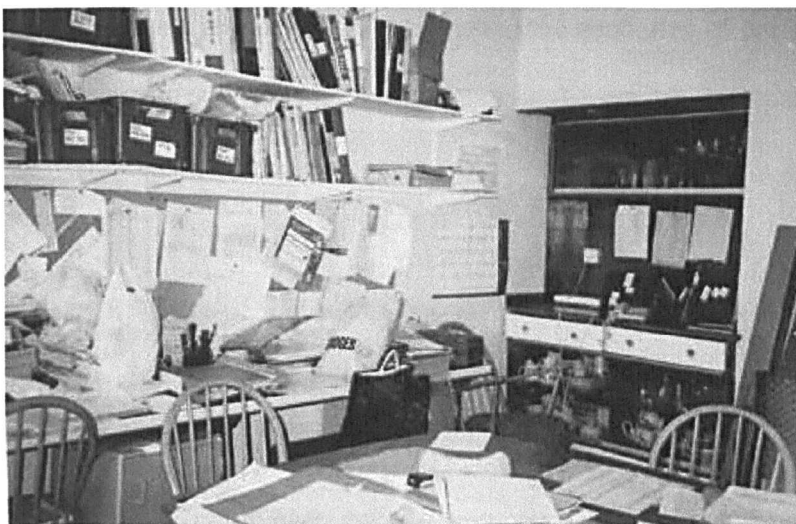


Figure 75
Food and
textiles office
at Brythnoth
– previously
the flat

The conflation of the feminine and the home and what she saw as the devaluing of the curriculum area was commented on at length by the head of food technology at Kingbourn; *'we are the people who bake cakes, do cookery and needlework.... It's funny the first one hundred times!'* (Heather Lumley, head of food technology, Kingbourn). She observed that 'food' was perceived wrongly as a non-academic subject, and complained that this was an outmoded view reinforced by stereotyping and parental memories of school days. She felt that the association with the home, meant that staff were also *'not seen as academic'* regardless of their qualifications or the way the curriculum was approached. Implicit in her response however was the desirability and status ascribed to 'the academic' which was echoed by her counterpart in Brythnoth.

5.1 Pupils and the gendered curriculum

Pupils in school are presented with their school subjects as *'faits accompli'*, with implicit and explicit hierarchies of knowledge apparently fixed, and dominant understandings uncontested. Hence; *'School curricula present a package of knowledge scripted and transmitted in particular ways'* (Coffey & Delamont 2000, p.31). The

power/knowledge relations highlighted in the gendering of particular school subjects are foregrounded by investigating spatiality as the meaning of space, in this case to pupils as well as adults.

Teachers suggested that pupils perceived the subjects of food and resistant materials as polarised in gender terms. Males were particularly keen to disassociate themselves from food and textiles, which they saw as a female domain (Askew & Ross, 1988). *'The males do see it as a girly environment so we plan work schemes to be more male so it takes away the stereotypical image'* (Heather Lumley, Head of food technology, Kingbourn). On being asked whether pupils were making less stereotyped option choices at GCSE in D&T (which at the time was a compulsory element under the National Curriculum), Gillian Mason at Brythnoth answered: *'We do have one or two boys doing child development but unfortunately most of them have done it for a laugh. The ones that've done it not for a laugh have done extremely well'*.

There is not room here to fully explore the intersection of gender and sexuality in the spatiality of the school. In educational research there is a growing awareness of the significance of sexuality as a dimension, particularly in relation to masculinities (Connell, 1987; Dixon, 1997; Mac an Ghail, 1994). There is also recognition of the work that pupils and teachers in schools perform on the construction of gendered and sexual identities. There is broad agreement among such research on the existence of a hegemonic compulsory heterosexuality in schools, maintained through sexist discourses, and producing particular forms of masculinity and femininity (Epstein, 1997; Martino, 1995). The adults in this study did not address such issues, thereby arguably rendering the subject areas unproblematically heterosexual, although there were indications of how homosexuality is traduced through association with subjects coded feminine: *'I mean*

you don't do textiles [at GCSE] do you because you're a poof if you do. We do have one or two boys doing textiles but it is only one or two boys' (Gillian Mason, head of food and textiles, Brythnoth).

The resistant materials workshops of the old metal and woodwork rooms were spaces substantially coded masculine, although at Kingbourn, a female D&T teacher of resistant materials was seen to be challenging these stereotypes in a positive way. In an empirical study of the deployment of a gendered and sexual script, Dixon (1997) illustrates through the study of one class how the D&T workshop allowed and encouraged a particular form of embodiment. This was associated with mock sword-fighting and other forms of exaggerated masculinity such as overstated sexual displays. She suggests that D&T classrooms are spaces that offer special possibilities for performing particular social practices of masculinities and femininities through drawing on wider discourses. Where space is constructed through action it is; '*a resource which simultaneously structures and is structured by individuals in the course of their everyday lives*' (Shilling, 1991, p.23). Such spaces do not determine practice, but offer possibilities through movement, routinised use or the availability of certain artefacts or materials.

5.2 Gendered subjects on the margins

Paechter argues that D&T and P.E. '*are almost paradigmatic in their positioning as marginal subject, and both have deeply gendered histories whose legacies remain today*' (Paechter, 1998a, p.81). This is a function of the relative status of different kinds of knowledge and images of masculinity and femininity. Child development, although not part of the D&T curriculum, was located within that department in both schools. Gillian

Mason ascribed this to the associations between the home, women and childcare. Along with food technology, child development was perceived as;

‘low down the hierarchy... .. When I came here I taught mainly food but textiles as well and then the child development sort of got lumped with it. Nobody years ago was trained. It seemed to be dumped on to the home economics department, because it was homely and I suppose really you’re teaching from personal experience ‘ (Gillian Mason, head of food and textiles, Brythnoth).

The subject content and ethos of H.E. traditionally embraces stereotypically female concerns around the home and family, although Attar (1990) points out that the components of food, textiles and household management actually have little in common beyond women’s (usually unpaid) labour in the service of others.

The continuing marginal status of food and textiles was reflected in the proportion of curriculum time allotted at both schools, and advice from tutors that the subject option was *‘not worth taking’* (Heather Lumley, head of food technology, Kingbourn). This was particularly the case at Kingbourn where the specialist status as an Arts and Media College meant that pupils were required to take more subjects within expressive arts. It was also demonstrated in the allocation of resources, notably in relation to ICT where both departments had only one old and non-networked computer, despite increasing demands from the curriculum. Kingbourn was, however, better resourced overall, but staff had to negotiate with other, more favoured, curriculum areas to share their computer workstations; *‘despite the fact that we have 50 students who need to use the computer six times during their [GCSE] course’* (Heather Lumley, head of food technology). These female teachers felt that, despite their potential relevance for most

adult lives, the subjects they taught were marginalised in relation to other areas of the curriculum.

5.3 Implications of the gendered curriculum

Despite the creation of D&T, girls are still ‘overwhelmingly’ choosing to study food and textiles and boys resistant materials. Such gendered choices are common in vocational education where:

‘gender, rather than individual achievement, potential and informed choice, is the key determinant of the vocational education and training experiences of young people. There are negative implications of this sex stereotyping for subsequent career destinations and life chances’ (Equal Opportunities Commission, 1999, p.224).

More disturbingly, the EOC found a lack of challenge to traditional patterns of gender stereotyping, which might even be reinforced through mainstream programmes, but with little evidence of concern from politicians, policy-makers and practitioners in education.

Feminist critiques of what counts as knowledge stress the social location and production of knowledge and whose knowledge is being given priority (Coffey & Delamont, 2000). The curriculum represents a particular nexus of power/knowledge relations which are the product of negotiations, some of which have gendered dimensions and spatial manifestations (Paechter, 1995, 2000, 2003). Knowledge may be seen to be gendered in a number of ways with powerful knowledges generally gendered masculine, for example with mathematics and physics constructed as inherently rational and associated

with particular forms of masculinity (Wertheim, 1997; Walkerdine, 1991). Paechter suggests that through the '*hegemony of reason and rational thought*' (Paechter, 1998a, p.64) the knowledge transmitted and valued in schools is commonly reason as 'decontextualised knowledge', which is valued over knowledge situated in everyday practices. This is emphasised by a culture of testing/examinations - with the assumption that knowledge can be easily assessed - thereby denying pupils and teachers as mutual creators of knowledge (Coffey & Delamont, 2000). The 'male-stream curriculum' (Askew & Ross, 1988), associated with particular forms of masculinity may then reinforce traditional roles and thence male achievement, for example in high status science.

Subjects which are associated with embodied practices because of the mode of learning, such as D&T, or directly using the body as in P.E. or drama, are then low in status. In an analysis of the 'otherness' of marginal subjects such as PE and D&T in the curriculum - Paechter (1998) locates the low status of these subjects within their intensely gendered and class histories. Gendered versions of D&T & P.E. are normalised in the curriculum - for example, through 'girls' games', while higher status subjects tend not to have gendered alternatives, so that we have accepted male P.E. but not male-specific maths. Curriculum areas such as D&T may be further marginalised by the link, e.g. through resistant materials, to the less academic and disaffected, with the association in the past of physical skills and certain forms of working-class masculinities (Connell, 1987).

5.4 Disputed territories on the margins- development of D&T

The spatiality of curriculum change is illustrated in a study by Paechter (2003) on the formation of D&T departments in the early 1990s, foregrounding issues of power/knowledge and the ownership of space.⁴⁶ She demonstrates that the use of specialist rooms reflected attitudes to interdisciplinary work, where a common response was often to *'retreat behind the borders, both physical and metaphorical of one's discipline of origin'* and to experience the spatiality of cross-disciplinary work as 'colonisation' or 'pollution' of curriculum, space and equipment. The gender-marking of the subject itself (rather than the sex of the teacher) within D&T seemed to relate to the ability to defend it, for example, with textiles being annexed by (male) teachers of craft design and technology (CDT) as a 'construction material'. Gendered power relations were played out through contestation of specialist space-times.

At Kingbourn, Heather Lumley claimed that, *'we are one of the few schools that get on superbly with the CDT [sic] department, there are so many schools where they don't talk to or like each other'*. However, in both cases, the creation of the new curriculum area of D&T had initially led to tensions over formal leadership roles. The present heads of Curriculum Area were both male, both had been appointed as CDT teachers with their female counterparts in HE apparently with equal responsibilities but appointed to a lower pay scale (a common situation in many P.E. departments), so when the D&T curriculum areas were created, both H.E. teachers declined to take on the additional responsibility for the same pay.

⁴⁶ Following the 1988 Education Act, the new subject of design and technology was to be created primarily from home economics (food and textiles), craft, design and technology- woodwork, metalwork and plastics - now called resistant materials.

In the study schools, the H.E. & CDT departments had been built completely separately, at Kingbourn divided by the science department (*Figure 10a*) ‘at the other end of D&T’ (Heather Lumley, head of food technology) and at Brythnoth, on different floors of Coulsdon block with ‘the men downstairs doing resistant materials and the ladies upstairs doing food’ (Matthew Kester, head of D&T, Brythnoth). This arrangement was however changing as new rooms were being added. It is intriguing to compare images of the D&T office at Brythnoth which Matthew had inherited (*Figure 76*), and then the data photograph of what it looked like in 2001 (*Figure 77*). A typical pattern is for the D&T office to be used for the storage of specialist or valuable tools (Paechter, *forthcoming*) but on his arrival Matthew had transformed the room, making it ‘ship shape’. The ‘mental map’ he drew (*Figure 78*), clearly shows the department as enclosed and discrete (with the river where he enjoyed fishing also represented) and probably relates to his own biography as an artificer submariner!



Figure 76
Old
technology
(CDT)
office,
Brythnoth

In relation to other spaces around the school, at Brythnoth the modern languages department was clearly and rather negatively, coded female although this was not appreciably the case of the larger department at Kingbourn, which had a staff varied in age and gender.



Figure 77
Matthew
Kester's
technology
office
(resistant
materials)
2000,
Brythnoth

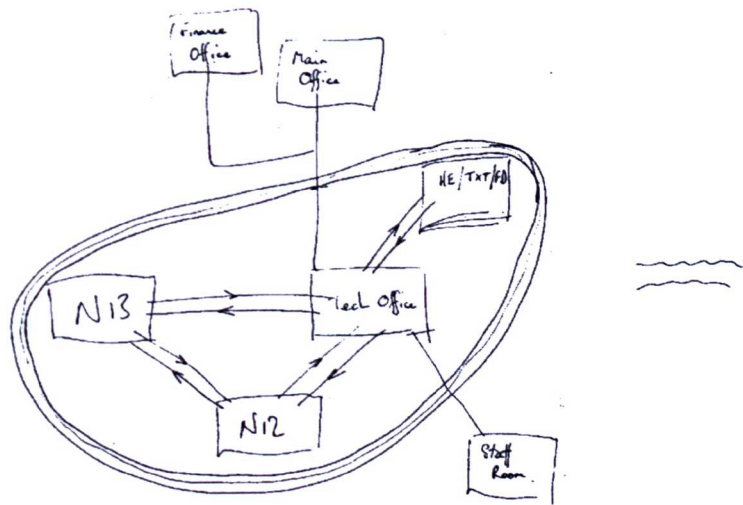


Figure 78
Mental map,
Matthew
Kester
Head of
technology,
Brythnoth

French is generally perceived as a 'female' subject and as Cohen suggests, '*the femaleness of French is intricately interwoven with the issue of gendered achievement*' (Cohen, 1996, p.125). She argues that it is the femaleness of French (associated with the education of the daughters of the wealthy at home and hence frivolous and superficial) and its teachers which is seen as the reason for girls' superior achievement rather than boys' deficit. Thus gender ascriptions draw on discourses extensive in time-space to justify what appear to be gender differences in achievement. In most school subjects there is actually greater variation within the various categories of 'girls' and 'boys' than between them (Arnot *et al.*, 1999; Murphy & Gipps, 1996).

6.0 Conclusion

This chapter demonstrates that schools are not the gender-neutral, asexual places that the majority of policy documents, curricula and interviews with teachers might suggest. Gender relations are significant in the construction of the school as a space and a workplace. The photographs and mental maps illustrate the way that the school as an institution is constructed from a series of different geographies (Philo & Parr, 2000) which intersect with gender. Space is implicated in the construction of (unequal) gender relations between pupils and between staff through the gendered social construction of workers as embodied beings and the location and physical construction of the workplace; this reflects the social construction of work and the power relations between workers.

Gendered divisions of labour are visibly expressed, for example, through the spaces of the office, reprographics room, library and canteen - all inhabited by women - which in turn influences the relations that occur there. This was evidenced in the study schools

through the centralised service functions strongly associated with a highly gendered division of labour among support staff (and to an extent teachers). Such a situation is maintained through the silences surrounding the contribution and composition of support staff and the gender coding of locations such as the office or the canteen. Objects and technologies with which people interact are also active constructors of space through the social and reflect and reinforce the gendered regionalisation of the school, as exemplified by the D&T rooms. Such 'places' are therefore active in the construction and understanding of gender.

The embodied nature of much work in school reciprocally influences the social construction of gender, through these divisions of labour and consequent space-forming practices. Everyday formal and informal transactions and restricted spatial ranges reinforce associations between the feminine and the local (Massey, 1994). Ryan Petrie, a head of year at Brythnoth, characterised the negative attitude of many of the Brythnoth boys to female staff as seeing them as '*woman in her little place*'. Patterns of working such as the quasi-domestic services provided by the science technicians in functionally highly specific places reinforce such notions. This may operate to maintain gender inequalities where especially women, and particularly here working-class women or those who wish to work more flexibly, remain marginalised in the workforce due to socially constructed norms and dominant power relations.

Bodily performances reinforce or challenge dominant versions of gender and are strongly influenced by prevailing gender regimes in schools (Kessler *et al.*, 1987). At Brythnoth this was influenced by a dominant form of masculinity displayed by certain boys and expressed through their attitudes to women of different ages:

' young female staff, they have a low status in boy's eyes. At middle age, they are old enough to be their mother. But any male staff are acceptable almost all of the time ' (Richard Docwra, head of re-integration unit, Brythnoth).

Hilary Shaw reflected on how this had affected her in the seven years at the school since she started as a newly qualified teacher of art:

'I look back at what I wore when I first started teaching here and its become male. I have become a bloke. They come in and see you as young and pretty and if they like you that's fine, you are away. If you are not that then they have two categories, either you are okay - blokeish or you are Mum. If you are Mum then that's disastrous. Because they don't want Mum in the classroom and they will behave to you as they do to their mothers which on the whole is appalling.....So yes I think I'm a bloke ' (Hilary Shaw, art teacher Brythnoth).

This is a form of masculinity shaped particularly through the dominance of agricultural practices in the surrounding area had had an effect on both her gendered appearance and experience or identity.

The relationship between gender and modes of association among staff has yet to be fully explored in schools. Although Wenger (1998) used examples of gendered work in describing communities of practice, this was not a significant dimension of the model. The interactions of the science department at Kingbourn suggested the possibilities of using the frame of gender to explore the differential operation of collaboration and negotiation as lateral modalities of power, drawing upon a significant literature on female preferences for more democratic, collegial and informal modes of association and leadership (Hall,1993; Blackmore,1999), although as Reay and Ball (2000) point

out, this should not be essentialised. However, interpretations of the interactions in the science department further suggest the importance of questioning masculinist/technicist hierarchical approaches to leadership, either as positional or a matter of style. This reinforces the need to look at the spaces for collaboration and joint work within a matrix of different social/professional relations. While Gordon *et al.*, (2000a) divide the school into formal and informal spaces to frame their research on gender, which has resonance with Goffman's work (1969), such aspects may be more salient for pupils given prevailing forms of pedagogy and control.

The fieldwork uncovered gender topographies evident in the distribution of individuals in different spaces, where they may develop 'ways of doing gender' as a result of interaction with that place. Nespor, (2000b) describes topologies, a perspective which moves us beyond the geographies of women or men to look at how and where staff and pupils draw on wider (and often hegemonic) cultural and social discourses. The mix of social relations which form the uniqueness of a place thus extends beyond what is commonly seen as the place itself. This applies also to the meanings they ascribe to the spaces that construct the school.

The construction of space in schools, through the timetable, rules and routines etc. is a visible and important aspect of everyday life - where pupils have perceptions reinforced or challenged. The ways of doing gender in organisations influence perceptions of what is possible. The intersection between space, gender and the curriculum is also important because knowledge production is not pristine, but situated where particular pedagogic spaces are created and maintained and not disembodied from public image and representation. Hence the marginalisation of subjects or pedagogic modes by more

dominant ones has an explicit gender dimension, where pupil choice and achievement are influenced by gendered assumptions.

Stereotypes influence teacher identity and enculturation (Weber & Mitchell, 1995), engendering a static idea of identity, rather than performed and distributed. A spatial conceptual framework allows a layered analysis of larger scale influences and shifts and their social and cultural manifestations, which form part of 'the hidden curriculum' (Apple, 1993; Margolis, 2001; Yang Costello, 2001). This operates through different forms of control exercised over bodies in schools (Paechter, 1998a). Rather than being a site where males and females enter as fixed entities, the school as a workplace for adults is an active force in the ongoing social construction of gendered and embodied beings. Gregson and Rose (2000) observe that current conceptions in geography more closely reflect Goffman's (1969) dramaturgical presentation of performance by pre-existing actors rather than Butler's argument that gender is performed through daily repetition (in/as space-time). If we see space as an articulation of power, brought into being through everyday performances, then space and gender are also practised; *'a matrix of play, dynamic and iterative, its forms and shapes produced through the citational performance of self-other relations'* (Rose, 1999, p.248).

Feminist theory challenges masculinist approaches that neglect the role of gender and embodiment, including in space-forming processes. Massey (1994) argues that space place and gender are culturally specific ideas and that ways of thinking about space and place as bounded and fixed are constructed similarly to contemporary Western modes conceptualising gender as unitary and pre-given. She also suggests that the need for the security of such boundaries is culturally masculine. Thus, challenging ways space and place are thought of also problematises dominant notions of gender relations. This is a

means of redressing hegemonic imbalances which render the influence and construction of gender and the role of space as invisible (McDowell, 1992). It is suggested in this chapter that gender/sexual differentiation is a fundamental organising principle and axis of power and also a crucial element in subjectivity and identity in schools (as elsewhere). Exploring the manner which gender relations are performed in/as particular space-times assists in deconstructing dominant notions of schools as neutral and homogeneous. This reinforces the argument that a greater awareness and understanding of space-forming practices in schools has an important contribution to make in giving a voice to currently marginalised groups.

Chapter Nine - The thesis as intersection

1.0 Introduction

In this thesis I draw on different aspects of spatiality to extend the understanding of the school as a workplace for adults. Space is demonstrated to be fundamentally implicated in the construction of the school as an expression and articulation of power relations. The mobilisation of space as a technology of power is reviewed in relation to the classroom and disciplinary spacings which create and maintain hierarchies of power/knowledge. Unequal power-geometries between and within staff and pupils are shown to be reflected in, and constitutive of, space-forming practice which is active in social (re)production, for example in the conditions for performing gender. The study of two schools is used to explore dimensions of spatiality as a network of materially-embedded social and power relations extensive in space-time.

The study further represents a search for coherent theoretical structures and robust methods to explore the spatiality of the school as a workplace. A major practical aim of the research was to explore the range of interactions characterised by teachers as collaboration, and what this meant *in practice*. This suggested critical differences between forms of collaborative work and the spatialities they exhibited. An important dimension was thus investigating the location of different spaces of association in the web of interactions, and the spatialities that encouraged or constrained collaboration as joint work. The form and content of such interactions represent a particular nexus of dynamic social/power relations demonstrably located in, or rather *as* space-time. In exploring the complex but patterned spatialities, the conjunction of collaborative forms of association and practice-based learning were related to power as a constellation of

relations, able to shape actions. The operation of different modalities of power was observed through the playing out of leadership (as influence) in distinct space-times.

In this concluding chapter, I will review the thesis as an intersection of learning and knowledge production and suggest the important constructs that have emerged to make us think about how space makes a difference in schools. Spatiality is compared with existing theoretical frames and the broader implications of this perspective for education are considered. Finally, the significant consequences for practice are reviewed and further avenues suggested to progress elements of the work.

2.0 Locating the thesis

This thesis itself is an intersection in a web of relations and understandings. A particular concurrence is represented by the cultural turn in geography and the spatial turn in social sciences which offer perspectives for the investigation of the workplace. In education, the conjunction of ideas around collaborative cultures, professional learning communities and distributed leadership also intersect with cross-disciplinary research on practice-based theories of situated learning which have created models such as communities of practice. Where practice-based learning is identified as situated and relational there is a drive to find locations of knowledge creation in the constellation of influences that constitute space-time. This movement is reflected in education research writing which interrogates notions of *context* as more than a *container* (Nespor, 2003) and leadership as *process* rather than *positional* (Jones *et al.*, 2003). Such conceptions of the emergent and relational support the conceptions of spatiality used in this study.

In the lattice of the thesis, another major thread is the mutual implication and (re)production of space and gender, which further knots together lines of theorising in

the social sciences. Different concepts of space and place do different work and have been addressed in different registers through the chapters. For example, spatialising the operation of power reveals how certain groups in schools are defined (as other) and are 'kept in their place' in power-geometries. The lens of spatiality has thus been employed with a selected range of 'filters' to highlight particular areas of its operation. Hence, the thesis represents a collage or mosaic, rather than a unitary synthesis.

3.0 The location of learning through the thesis

The challenge of representing spatiality foregrounds the tension between process and product. The PhD study has been an exploratory process of making connections between theories and practices in an iterative fashion. The thesis represents a nexus of intersecting relations and situated learning in particular spaces, whether through internal seminars, supervisions in the British Library cafeteria or conference symposia. I have also interacted with distant space-times through texts, experiencing the time-space compression of 'catching up' on 25 years of academic geography!

Through such processes and the reflexive question '*What has led me to this point?*' I have come to understand something about identities distributed in space-time and reassembled in specific places; like the school staffroom (*teacher-colleague*) during interviews (*woman researcher*) seminar room (*student*) or writing at home (*worker, partner, mother*). A preference for collaborative working and creating new knowledge with others strongly influenced the genesis and design of the project and methods of working during the research. Cross-curricular engagement and relationships with supervisors, interaction with fellow ESRC students and networking with others through e-mail all exemplify these processes.

In arguing for the open-endedness of spatiality as a generative perspective on schools and knowledge as situationally created through networks of interactions, it is difficult to fix the research at one point in a bound(ed) thesis. Already new understandings and reconfiguring possibilities become apparent. A huge amount of material was gathered in an exploratory fashion during the fieldwork as understandings of spatiality evolved. Although this has been considered as part of the analysis, not all has been directly used and so remains as a 'corpus' which may be revisited, reanimated, and reworked in the future.

4.0 Space makes a difference in schools as workplaces

This study demonstrated that space is fundamentally implicated in the construction of the school as an institution and a workplace. Conventional school buildings were explored as concretisations of power, configured for previous eras, but continuing to shape practices (Markus, 1996; Piem, 2001; Jacklin, 2000). The study of the spatial as a means of foregrounding power relations and space was shown to be a major technology of power. It operated particularly obviously in the study schools through Foucaultian orderings of distribution (into classrooms) classification (into departments), normalisation and surveillance. This was commonly accomplished within, and reciprocally created through, hierarchies of status of gender, age, knowledge, pupils' 'ability' and teachers' roles and responsibilities. Consistent with previous research, space was actively mobilised by teachers and pupils in the playing out of power relations. Teachers drew on it to exert their authority over pupils employing common spatial disciplinary devices which are pervasive in many classrooms (Gordon *et al.*, 2000a; Shilling, 1991).

Power thus operates through space and space makes a difference to the operation of power. While relations of power are pervasive, there are also knots or entanglements where networks of people, objects and technologies are assembled in particular places, doing certain work (Sharp *et al.* 2000). Staff reported interactions occurring in/as different space-times, comprising quite different patterns of association to different effects. The subject department was a particularly crucial collaborative knot in the fabric of interactions in these schools. In terms of conventionally understood 'places' the department office and meeting space were most important for the majority of interactions, demonstrating the influence of space-times where teachers had the opportunity to associate in practice-relevant configurations (Nespor, 1994; McGregor, 2003c).

Opportunities for influencing each other through engagement with joint work happened in/as certain space and places. The initial device of identifying '*critical practices of adaptability*' (Little, 1982, p.332) distinguished patterns of sharing and storytelling etc. (that Little suggested maintain workforce satisfaction and stability) from those generative of collective commitment to agreed practices and learning through joint planning, enquiry and development. Focussing on the department suggested that polarisation into strong and weak links does not, however, take enough account of the meshing of such ties over time, creating bonds of trust and humour through social and professional interactions (Avila de Lima, 2001). Hence the importance of identifying space-times facilitative of engagement with creative joint work, which overlap with less formally defined communities of practice.

Closer attention to the spatiality of the 'collaborative culture' of the science department at Kingbourn suggested its dynamic construction as a network of relations, mobilised to

create opportunities for collective working and learning. Heterogeneous and extensive networks of people objects and technologies were deliberately knotted into a practice-relevant configuration which demonstrably facilitated learning and encouraged knowledge creation to take place. It was through materially-embedded interactions such as collaborative planning, that staff seemed most likely to explore and confront differences positively, to share experience and actively engage with the practice of others. They thus developed practice-based knowledge *collectively* rather than simply transmitting information to each other (McGregor, 2003b).

Such joint approaches have been shown to develop shared feelings of responsibility, reducing fear of failure and increase the confidence to selectively respond to innovation (although this does not automatically follow nor is it necessarily unproblematic) (McLaughlin & Talbert, 2001; Little, 1990a; Timperley & Robinson, 1999). Spatialising the ‘microphysics of power’ operating in/as the science department indicated more complex relations than binaries of domination and resistance, with modalities of power such as negotiation and persuasion operating freely between colleagues, whether technicians, ITT students or teachers.

Awareness of the operation of power and the conjunction with space was thus significant in supporting the more positive and effective work relationships seen overall at Kingbourn. Critical social theory indicates the importance of recognising configurations of power so that they can be collectively challenged (Peters, 2003). Conventional ways of thinking about space and place as bounded and fixed are similar to conceptions of gender as pre-given and unitary, or power and knowledge as possessions. Such reifying modes of thought give rise to essentialising binaries, such as structure/culture or local/global, that obscure the complexity and dynamism of

institutions. Constructing the school or classroom as a self-contained, pre-existing entity allows space to be mobilised in creating boundaries which serve to create spaces of enclosure (Lankshear *et al.*, 1996). Such a view is not only inadequate to describe how schools operate, but makes possible the perpetuation of unequal and hegemonic power relations.

Thus processes disappear from view to be replaced by a perception of the thing itself. The classroom, staffroom or school as a designed technology becomes invisible. This is reinforced by the silences in education around space, power and gender. In this thesis there is an insistence that schools and classrooms should not be seen as discrete spatio-temporal islands (Nespor, 2002) isolated from the wider social, political and economic influences which construct them. Rather they should be seen as ongoing accomplishments of relations extensive in space-time.

These schools as workplaces were neither undifferentiated or homogeneous. 'Within' the schools the power-geometries between different workers (and their relationship with pupils) were expressed and maintained through space-forming practices which could be gender-coded. The school was variably constituted by its occupants, the local community and official agencies such as Ofsted. As an intersection of relations it was created through the complex meshing of trajectories of influence, which there has been insufficient space to explore fully in this thesis.

5.0 Spatiality and teacher workplace cultures

Focusing on the department as a space-contingent field of practice (Nespor, 1994) highlights the articulation of physical and social space. Such relations create an emergent context for association and collective learning. In exploring the spatiality of

the school as a workplace, a further aim of the study was to interrogate and compare the utility of the theoretical perspectives in relation to those of school cultures and communities of practice currently popular in education.

The frame of cultures proved useful in grounding interactions, suggesting the importance of 'context' - especially in relation to multiple and overlapping cultures rather than a monolithic body. However, there remains among teachers the notion that they are bounded 'within' the school, as pre-existing and necessarily homogeneous entities that one enters. The model of communities of practice (Lave & Wenger, 1991) presents a more fluid conception of grouping and places attention on practices and the development of relationships, rather than focusing on the beliefs and values of a collection of individuals. The existence of multiple communities of practice, overlapping with organisational and cultural groupings in the workplace, proved a useful heuristic and suggested further dimensions along which to explore the relationship between cultures or professional communities and spaces of activity. For example, the model further developed by Wenger (1998) provided helpful conceptual tools for differentiating practices between Kingbourn and Brythnoth along the lines of engagement, alignment and imagination.

The physical and organisational architectures of Kingbourn and Brythnoth were not dissimilar, although there were some significant variations, for example in the proportion of pupils from different socio-economic backgrounds and access to resources. However, there was a difference in the way in which space and time were used at Kingbourn. There was a deliberate structuring of spaces for cross-curricular dialogue, collaboration and enquiry. Enquiry was used as a vehicle to encourage these stronger forms of joint work. In the frame of communities of practice, engagement in

activities was encouraged to be more iterative through restructuring meetings and in-service work to be more interactive and developmental, through the cross-curricular SIGS and the welcoming of ITT students.

Thus, practice was articulated, explained and developed through enquiry, mutual observation, feedback and dialogue 'within' and 'between' curriculum areas. Alignment with wider issues and processes was overt and ongoing (for example, through the activities of brokers or boundary workers 'within' and 'beyond' the school such as Jonathan Dexter and Greg Parfitt), also through 'bringing in' and being aware of the relevance of research and initiatives. In terms of imagination, while Brythnoth was still struggling to escape the staffing and resource problems following the merger, Kingbourn had an image of itself as a 'successful school' validated by 'outside' (e.g. through Beacon status). The Kingbourn staff also revisited and restated their educational aims and purposes on a regular, collective basis.

5.1 Spatialising collaborative cultures and communities of practice

While cultures and communities of practice do useful work in explaining workplace patterns, I propose that the lens of spatiality provides a more holistic perspective on how the institution of the school 'keeps itself in place'. Considering the creation of space through the social acknowledges that things happen in/as certain space-times.

The possible points of transformation where learning may take place and new knowledge be created through collaboration were strongly located in/as the departments in both schools. However, there were significant differences between the schools in the way these opportunities were provided and taken up. At Kingbourn space-times for

individuals and groups to work together were deliberately identified and created to develop collaborative relationships. These were more frequently reported than at Brythnoth, and teachers were more likely to express an understanding of the complexities of teaching and the possible influences of distributed leadership. At Kingbourn there was more opportunity for staff to explore the influence of the spatial and consequently a greater attentiveness to its significance.

Communities of practice are a locus for learning - as suggested by the interactions of the science department at Kingbourn. Although in early conceptions, such communities were presented as *containers* for practice within a theoretically-given context, a view of situated learning has evolved, where making or renegotiating meaning together reciprocally brings into existence the community and identities which are shaped in emergent structures. This is congruent with the conception of spatiality employed in the thesis where context is rearticulated as spatiality, an ongoing and creative set of relations rather than a container into which people or reforms are dropped (Nespor, 2003). Hence the spatiality of the practices in which members participate define the possibilities for learning.

Spatialising Wenger's (1998) model of communities of practice would provide both an analytic of power and a broader consideration of the trajectories along which individuals are mobilised into the community and contribute to its ongoing construction. Acknowledging that such assemblages are also heterogeneous actor-networks, where objects and technologies may have agency through social interaction, moves beyond the social constructionist viewpoint to bring the materially-embedded nature of place back into view. In this frame, Nespor (1994) demonstrates the importance of practice-relevant configurations in reassembling 'knowing locations'. Viewing the department as

such a heterogeneous network has considerable analytic strength in explaining where such assemblages are co-constitutive of learning and knowledge creation. Places (such as the Kingbourn science department office) are thus active in configuring knowledge.

Spatiality allows collaborative interactions to be explored through the reframing of power relations and the *location* of their incidence. Staff indicated that the locations of strong forms of collaborative joint work were significantly patterned. Everyday encounters and meetings, particularly with departmental colleagues, provided opportunities for practice-based interchange rather than whole staff meetings or Inset days, (which are traditionally thought of as sites for professional learning and development). Such close encounters enabled associative rather than coercive power relations to operate. A Foucaultian view of power as a constellation of influences and the deployment of Actor-Network approaches foregrounds the power relations inherent within/as such situated activity. In these perspectives, power and knowledge are indissoluble aspects of concrete practice which contribute to an understanding of where/when collaborative learning may take place (Fox, 2000).

The study began by mapping topographies of interaction and gender but an evolving understanding of space and place suggested the value of taking a topological view of network space. Where practice is enmeshed with more expansive and heterogeneous networks, places can be more clearly seen to actually be process. Kingbourn appeared more 'porous' to such influences (e.g. through interacting with students and research). This also indicated the importance of seeing the past in the operation of social relations in the present. At Brythnoth the trauma of the merger which had taken place 15 years previously still appeared to have an effect on current patterns of working, exacerbated by the pressures of poor resourcing and the challenging circumstances of some pupils.

A more robust topological approach suggests not so much the permeability of boundaries, but a bundling of trajectories in unique space-times, periodically reassembling practice-relevant configurations. Hence schools, classrooms and indeed teachers and pupils may be seen as network effects. Where pedagogy is conceptualised as an accomplishment of the department or school as a network it moves away from the notion of the individual teacher in the black box of the classroom (McGregor, 2003d). Understanding the school through a network approach places explicit attention on *interconnections* which indicate the importance of recognising collectivity and working to maximise it.

5.2 What can the school tell us about space?

Schools are useful vehicles for the study of spatialities, as activities are intensely regulated through the (space-)timetable. The commonalities of schools across space and time exhibit almost ubiquitous forms and arrangements in ‘the West’ which reflect the persistence of power relations and hegemonic practices (Rose, 1999). Spatiality may be experienced at an almost subconscious level, as a ‘hidden curriculum’ maintained by a reluctance to acknowledge the (gendered) power relations which are operating (Yang Costello, 2001). This has been exacerbated by the control of design professionals and lack of attention to the physical environment of schools (Clark, 2001; Fisher, 2002b).

Recognition of the discursive text of space and movement ‘within it’ foregrounds the operation of power and indicates how space can operate to reinforce and normalise practices. The spatial arrangements of classrooms intersect powerfully with pedagogic practices and possibilities. They may also reflect teachers’ predispositions to collaborative work with colleagues or pupils. Siegel (2002) found that teachers sustaining traditional classroom practices exhibited more controlled interactions with

colleagues, which were mostly social or administrative. In contrast, those engaging in non-traditional practices had more extensive and collaborative links with colleagues. They also spent more time and effort adjusting the work environment to fit the needs of pupils.

In this study, spatiality was recognised and understood by some individuals and groups, who were also sensitive to the conditions developing professional communities. When there was a conjunction with the resources and will to do something about this (as at Kingbourn) the results were significant in encouraging strong forms of joint work or critical practices of adaptability (Ben-Peretz *et al.*, 1999). Although education lags behind knowledge-based industries in developing flexible collaborative practices, the school can also tell us about the workplace in relation to learning and knowledge production (Jackson, 2002), for instance in the value of re-placing knowledge through various practice-relevant configurations.

Schools are filled with experts on teaching and learning and are thence places where staff and pupils can engage in investigations of spatiality as part of their work. Schools are thus an ideal place to begin scrutinising the operation of power through space, to develop a critical 'spatial literacy' with which to explore and confront unequal relationships (Fisher, 2002a; Morgan, 2000b).

6.0 What are the potential implications for education?

The physical, social and temporal architectures of the school needs to be redesigned if we want to develop more democratic and creative modes of working together. Spatiality provides a theoretical framework for this and the conceptual and empirical tools for

investigating it are developing - to which this thesis contributes. Elements such as the timing of the school day or term, meeting structures, initial teacher training and physical spaces can all be scrutinised and changed.

Projects such as School Works (2001, 2002) (which redesigns schools through the participation of the inhabitants) demonstrate through action-enquiry that space makes a difference to ways of working in schools. Developing a critical spatial literacy in schools involves making relations of power explicit (Fisher, 2002a). In recognising the maps of power through which the school or classroom is constructed these may be redrawn through joint enquiry and the making of meaning together, with all the possibilities and modalities of interaction that suggests. Staff and pupils can engage with reflexive processes to investigate how they are working at the moment, to move beyond the rhetoric of collaboration and be attentive to relationships of power.

Exploring power relationships through spatiality also draws attention to conceptions of leadership and how they are played out in education literature, policy discourses and schools. Recognising the possibilities for working together in different ways highlights the need to explore the meaning of leadership through interactions. The role of the headteacher and senior team in identifying and creating the conditions for different forms of collaboration was recognised in the study. At Kingbourn there was a more explicit awareness of the importance of leadership as an activity or process, more likely to be enacted in certain places than others. Hence the salience of some department or SIG group meetings where innovations or enquiry results could be evaluated and explored at similar levels of competence. This can shift the power-geometry away from a focus on positional authority. Developing notions of 'distributed leadership' (Bennett & Anderson, 2003) reconceptualise leadership as influence rather than simply

delegation. It may be reframed as a process - hence associational power '*with*' rather than '*over*' or '*to*'.

There is increasing interest in the development of network theory and practice throughout education and elsewhere, although again the term tends to be used unproblematically (Lieberman, 2002, McCormick, 2003, Nespor, 2003). The work of this study over the last four years has intertwined with the genesis of the Networked Learning Communities (NLC) development and research programme funded by the DfES. This invites schools to form interdependent networks through which they work collaboratively, with and on behalf of one another, on learning foci of their choice. A major aim of the NLC project is to find ways of creating and sustaining generative spaces for learning and the active production and sharing of knowledge (Jackson & Leo, 2003). Locating collaborative forms of work in particular space-times, for example at the conjunction of departments and communities of practice, therefore takes us a step forward in identifying where such workplace learning may take place, and how place and space shape learning.

It is important to identify the connections which create networks of relations within and between schools, in terms of the locations of interaction and learning and the nature of the flows that animate the linkages. The trajectories that bring individuals, groups and schools to particular points are also important to trace. It is also necessary to further develop tools to 'map' this that are accessible to teachers and pupils, as collaborative research and inquiry into the spatiality of workplace practices raises awareness of issues through very the process of working together (Jackson, 2002). Teachers in this study

understood the heuristics of the graphs that I showed them⁴⁷ and responded positively to the mental mapping and photography methods of research. Instruments used in this thesis such as the grid and mental mapping techniques are currently being refined and reconfigured for use within and between schools and networks to support joint work.

In tandem with the democratic aspirations of the NLC project there is a strongly political dimension in the aim of informing and influencing policy makers. Ten percent of schools in England expressed an interest in becoming part of a Networked Learning Community and the programme works with the Innovations Unit, LEAs and Universities to interrogate existing partnerships and explore how these might be developed to move beyond the rhetoric of collaboration (Jackson & Leo, 2003). Such government and professional initiatives thus create a potentially powerful resource for change ‘from the bottom up’, encouraging a shift from policies prescribing standardised practices, within punitive accountability structures, to those supportive of teacher/adult learning communities. These further develop norms of enquiry, shared accountability and collective responsibility. This in turn arguably strengthens teacher judgement, opportunity to learn and readiness to engage with pupils in more emancipatory relationships (McLaughlin & Talbert, 2001; Fielding, *In press*).

Spatiality and relational conceptualisations challenge traditional binary and essentialist thinking. Instead of seeing places as having boundaries, they are articulated moments in heterogeneous networks of social relations and understandings. Such networks are not given but the product of processes in a particular space-time. As Massey (1999b) points out, because space-time is an uncompleted simultaneity of bundled and distributed trajectories, there are always loose ends and the opportunity for different directions.

⁴⁷ See the graph appendix XIII which illustrates differences in the responses for the science and expressive arts curriculum areas at Kingbourn.

Space as 'multiplicity' thus allows a radical openness for a reconfiguring of relationships (Allen *et al.*, 1999).

7.0 Future trajectories of research

Research on professional learning communities, to which this thesis contributes, is still in its infancy and there is a need to look more closely at how they function over time and the particular spatialities they exhibit (Cibulka *et al.*, 2000). The study has indicated where we might start to look for the intersection between teacher workplaces and spaces which provide the opportunity for dialogue and interactions supportive of teacher community. This needs to be taken further in exploring gender dimensions and to link with work on the influence of subject teaching. Finer grained studies are needed to determine the way in which learning takes places as a result of such interactions.

Tracing the influence of individuals who are transacting and brokering learning and knowledge would be a fruitful focus for longitudinal studies, for instance employing conversational analysis investigating the problematic and fertile area of dialogue (Little, 2002). Longitudinal research might also study the emergent groupings/assemblages or spatialities developing when new approaches are introduced and the (dis)continuities shaping the development of such spaces. Through what translations and reifications do which actants persuade others to link up with them (Nespor, 2003)?

Collaboration can be productively interrogated further and differentiated from collegiality, thus continuing the debate so productively begun by Fielding in respect of the relationship with community and the *reasons* people wish to work together (Fielding, 1999a, 1999b). The pace of technological change makes it imperative to

investigate on-line educational communities and possibilities they afford for interaction, particularly in relation to engagement with similarity and difference (Avila de Lima, 2001). The use of social network analysis should prove fertile, but again I would suggest that it needs to be spatialised.

Some of these possible trajectories are likely to be developed through the NLC project. As noted, interest in a network approach to conceptualising and organising schools and groups of schools is currently considerable. Work in this study suggests the value of investigating the spatiality of the nodes and links and the flows of energy that animate them, thus tracing the network of formal and informal interconnections. The findings of the relatively small amount of research on networks in education so far suggest that there are common features of 'successful' networks in education where joint work and enquiry forms the basis for sustained relationship building. This develops the capacity to respond to the challenges of change creatively and potentially creates new patterns of leadership - as 'cross-cultural brokering' (Lieberman, 2002; McCormick, 2003; Jackson & Leo, 2003). This thesis contributes conceptual and methodological tools to investigate this further.

8.0 Concluding remarks

The salience of metaphor has been demonstrated throughout the study and the importance of language and a shared vocabulary in creating spaces of association was particularly evident at Kingbourn. Current metaphors for good practice in education reflect Lortie's (1975) ideal, which was a school where collaboration and enquiry built shared knowledge to create a learning community. If learning is a change in situated knowledge and action then the learner is not just an individual but a community - of all

those involved. In advance of further understandings, the metaphor of community is a generative one, but we must beware of creating new and unproblematic orthodoxies, as may happen with communities of practice. Network or web metaphors are also productive, they are about people and flows of influence and power, confronting and accommodating difference. Engaging with spatiality as a new perspective in education thus provides creative opportunities to shape priorities and identities, for new ways of learning and working together. Schools are a good place to start.

Appendix 1

Data Collection Methods- KINGBOURN	Phase	Location
School in Space		
Data on catchment area e.g. PANDA Brochures and leaflets produced by school & community office Inspection reports etc.	1 1/2	Pyramid partnership Admissions policy Ofsted 1996, 2001 Investors in People Beacon Renewal Governor's Report
School as Space		
2D maps and plans, aerial photographs Timetable, calendars Document collection Webpage	1-3	Development Plan Students as Researchers School newsletters
Mark uses of classrooms & offices etc, including regulations re access	1	Whole school
Photographs of workspaces (black & white & digital)	1-2	62
<i>The School as a container for social interactions</i>		
Document/memo collection	1-3	Briefing sheets Staff/student bulletin Meeting minutes Notices, memos etc
Formal staffing structures & teaching patterns	1	Staff handbook(s) Timetable
'Mapping' perceived interactions(grid)	3	Whole staff
Observation of formal meetings Briefings in staffroom(s), Informal times –before and after school, breaktimes 'map' use & seating arrangements	2/3	Briefings Inset NTA meeting Department meetings Staff meetings
Interviews with staff who come into school to work eg careers advisors, new entrants, student teachers & 'Non Teaching Assistants'	2/3	Research assistants IQEA staff NTAs Student teachers
The School as social space		
Observation(focusing on particular departments)	2/3	Expressive Arts, Science Office
'Mental mapping' with selected staff- asking them to draw agrams/maps/pictures to show their feelings about different spaces	2	Geography
Disposable cameras for selected staff to record 'their workplace' (2 lost)	2/3	Colin Duchesne Trevor Denman Harry Manson Karina Leathwood Georgina Venables
Semi-structured interviews (using schedule & possibly grid / questionnaire data & photos as above)	2/3	32 Interviews 14 'Conversations'

Appendix II

Data Collection method - BRYTHNOTH	Phase	Location
School in Space		
Data on catchment area PANDA Brochures produced by school Health questionnaire	1	
Inspection reports etc.	1	1995, 1998, 2000
School as Space		
2D maps and plans, aerial photos Timetable Document collection	1	
Mark uses of classrooms & offices etc, including regulations	1	Formal use, lunchtime
Photographs of workspaces (black & white & digital)	1-2	
<i>The School as a container for social interactions</i>		
Document/memo collection		'Green 'un' & 'pink un' briefing sheets Notices, memos School newspaper
Map formal staffing structures & teaching patterns	1	Staff handbook Timetable SIMS
'Mapping' perceived interactions (grid)	2	Volunteers at staff meeting
Observation of formal meetings and briefings in staffroom(s), also informal times –before and after school, breaktimes etc 'Map' use & seating arrangements etc	1-3	Briefings Inset Curriculum group SMT Academic tutors
Interviews with staff who come into school to work e.g. careers advisors, also new entrants, student teachers & support staff	2-3	School advisor Supply teachers Publisher representative
The School as social space		
Observation, focussing on particular departments	1-3	Science Art
'Mental mapping' with selected staff- asking them to draw diagrams/maps/pictures to show their feelings about different spaces	2	Tea & Sympathy group
Disposable cameras for selected staff to record 'their workplace' (1 lost)	2	Hilary Radlett Gregor Talmussen Martin Best
Semi-structured interviews (using grid/ questionnaire data & maybe photos etc. as above)	2-3	27 interviews 24 'conversations'

Appendix III

MAPPING OF METHODS COVERAGE (x=contribution X=major contribution)									
	Power Geometries	Gender Issues	Articulation of space through time	School culture Perceptions	Interactions	Perceived interactions	Networks	Topologies-Local/national	
SCHOOL IN SPACE									
Documents eg Ofsted	x	x		x				X	
SCHOOL AS SPACE									
Maps of physical space labelled use	x		x	x			x	x	
AS CONTAINER FOR SOCIAL ACTION									
Timetable analysis	x	x	X		x		x	x	
Official staffing & Hierarchy	X	X			x		x		
Photos		x	x	x			X	x	
Observed Interactions	X	X	x		X		x		
AS SOCIAL SPACE									
Grid of interactions	x	x		X	x	X			
Mental mapping	x	x		X		X	X		
Photos				x	x	x	X		
Interviews	X	X	x	X	x	X	X	X	
Observation	X		X			X		X	

Appendix IV

Grid instrument to map perceived interactions	Within the department	Individuals in other departments	Year group staff	Senior leadership team	Learning support staff	Cross-curricular groups (specify)	Student teachers	Teacher networks/other schools	Staff meeting	Department meeting	Breaktime	Performance management review	Classroom	Staffroom	Department office/room	Meeting at home	Other (please specify)
Lend & borrow materials together																	
Design & prepare materials jointly																	
Prepare work schemes or lessons together																	
Observation with feedback																	
Persuade others to try an idea																	
Make collective agreements to test an idea																	
Praise/celebrate the achievement of others																	
Complain about students/classes																	
Talk about social/personal life																	
Mark & moderate work together																	
Dialogue around teaching & learning																	
Joint research/evaluation																	
Other (please specify)																	

Thank you for assisting with this research into teacher workplace culture. Please indicate with a cross on the grid the interactions that you most commonly have with different colleagues at various locations. Please return to Jane McGregor's pigeon hole in the staffroom as soon as you can.

Name(optional)..... female/male

Role & main subject taught..... Years taught at this school

Of the categories above (or any you have added) where and when would you say that you engage in the 'strongest' forms of joint work?

.....
What metaphor(s) would you use to describe 'what it is like to work in this school'?

Appendix V

Example of an interview schedule (February 2001)

How long have you been teaching at the school?

(What were you doing before you came here?)

What is your teaching commitment- subject/hours etc?

What were your first impressions of the school?

What is it like to work here?

(What are the differences in workplace culture (to your last school)?

With whom do you work most closely (5 people)?

What groups would you say you were part of at school?

What 5 things help you most in your teaching?
(What could you not do your job without?)

What do you see as the main influences on your teaching?
(eg type of student, curriculum)

What joint work do you engage in?
(Can you give an example?)

When do you mostly work with other people ?
(E.g. scheduled meetings, non-contact periods)

Do you perceive gender differences in the ways people work together?

How does space & the arrangement of rooms affect the way you work?

How do you use the staffroom?

Do you use the department office?

Where do you work most closely with others ?

Where do feel that decisions are made in the school?
(Where does power lie?)

Appendix VI

Teachers' photographs Kingbourn & Brythnoth

Name	Georgina Venables (English)	Harry Manson (English)	Ceri Peters (Head Expressive Arts)	Colin Duchesne (Joint Head 6 th form)	Karina Leathwood L (Head R.E.)	Trevor Denman (Art teacher)
School	Kingbourn	Kingbourn	Kingbourn	Kingbourn	Kingbourn	Kingbourn
1.	'Dream office'-husband's office	Desk in English office- messy	Expressive /Media Arts staff & technical resources area	Office next door (NTA)	My classroom	My teaching room
2.	"	"	"	Maths department, computer room	Table in corridor outside room	" (door)
3.	Dining room- lack of storage	Room go to mark	Arts/Media foyer	Maths M1 room	Reprographics	Art office
4.	Dining room table-out of hours office		" corridor in Media dept	IT room ('A'level)	" (NTA)	Mezzanine from office
5.	English office- the goldfish bowl		"	6 th form Office shared	Audio-visual resources area (NTA)	Exterior of room with windows
6.	Desk in English office		Staffroom kitchen	6 th form foyer	CJ	"
7.				Staffroom 6 th form	Reprographics	Corridor & display
8.				Staffroom	Library (NTAs)	Main entrance Art
9.				Drive	Staffroom	Building

Photos Brythnoth taken by teachers

Name	Martin Best (Head of Art)	Gregor Talmussen (Head of Humanities)	Hilary Radlett (Chemistry)
School	Brythnoth	Brythnoth	Brythnoth
1.	Tutor group in PSE	D5 classroom (sterile)	Husband over meal
2.	“(boy)”	6 th form staffroom-table	Humanities classroom-RE & SD
3.	Sixth form girl	“	My teaching & form room
4.	Year 11 with coats on	6 th form History room	Prep room and M (Technician)
5.	Photographers group	My office- boot of car	Science staffroom
6.	B & A (technician) in art staffroom	Humanities office	Staffroom
7.	A level photographers	“	
8.	Girls in room with HS	The ‘guardroom’	
9.	Students lining up for fire alarm	Parents evening-History	
10.	Media studies class	“ RE	
11.	Year 11 arriving	“ Geography	
12.	Year 11 departing	34-7 kids in classroom	
13.	Curriculum level 3 meeting	RE	
14.	HOD with head in hands	“	
15.	On laptop working at home		
16.	Darkroom- ‘my empire’		
17.	A in art room		
18.	Lunchtime photographers		
19.	GCSE photographers		
20.	‘The lunchtime crew’		
21.	Girl having picture taken		

Appendix VII

Ofsted Statistics 2000/2002

	Brythnoth	Kingbourn
Qualified teachers (Full Time Equivalent)	58	67.7
No. pupils per qualified teacher	17.1	14.9
Education support staff	28 (466 hrs per week)	21 (437 hrs per week)
% time teachers spend in contact with classes	79.2	74.6
Average teaching group size KS3	27	22.9
Average teaching group KS4	23	21.4
Expenditure per pupil	£2300	£3036
Pupils on roll	(11-16yrs) 867	(13-16yrs) 1008
Sixth form	130	512
Pupils entitled to free school meals	10.6%	5.4%
Pupils on register of special needs	25%	11.9%
Exclusions in last school year (fixed period)	76	6
Pupils from ethnic minority backgrounds	6	44
(National figures in brackets)		
Average GCSE point score per pupil (38.4)	31.8	49
Vocational qualifications – success rate	N=46 100%	N=60 85%
Average A/AS point score per pupil entered for 2 or more ‘A’ levels (18.2)	17	22.4

Table 1

Teaching

Lessons observed by Ofsted Inspectors	Brythnoth	Kingbourn
Teaching judged to be satisfactory or better	86%	99%
Teaching judged to be very good or excellent	20%	39%
	<i>'Unsatisfactory teaching occurs in Key Stage 3, particularly in Science, Religious Education and History and in Key Stages 3 and 4 in Modern Foreign Languages'</i>	<i>'Almost all teaching observed was at least satisfactory'</i>

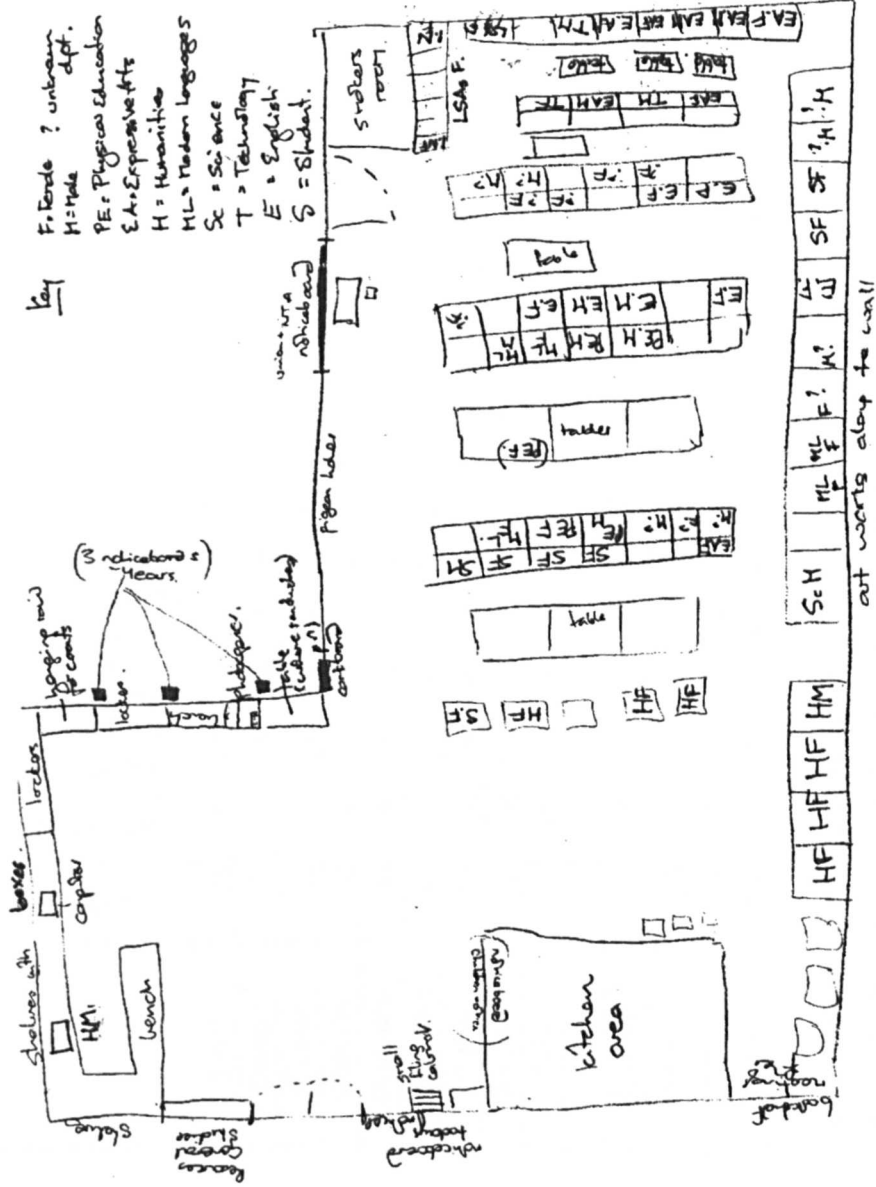
Table 2

'How good the school is'

Brythnoth	Kingbourn
<i>'The overall effectiveness of (Brythnoth) is satisfactory and improving. Strong leadership from the principal, very well supported by the governors, has resolved some very difficult challenges that have arisen since the last inspection. Managing staff reductions and seeking to develop the education provided, whilst dealing with severe financial constraints have resulted in the college achieving sound value for money'</i>	<i>'(Kingbourn) is an excellent school. Standards achieved are well above average. Outstanding leadership has created a climate in which students are keen to learn and there are excellent opportunities for students' personal development. Teaching, overall, is very good. The school provides very good value for money.'</i>

Table 3

Appendix VIII - Staffroom map, Kingbourn



Stalkman - Cuppaum Jan 19th 2007
Sealing Breeding 30th April 2007
11.00am.

Appendix IX

	Within	Individual	Year group	Senior Staff	LSA	Cross-Curriculum	ITT	Teachers	Staff	Department	Break	PM Review	Classroom	Staffroom	Office	Home	Other	Total
	Lend	26	9	10	3	13	1	1	5	0	11	7	0	5	1	9	0	101
	Design	17	0	5	0	4	0	0	0	6	3	0	2	0	3	1	0	41
	Prepare	15	1	4	0	2	0	0	0	6	3	0	2	0	5	0	1	39
	Observe	9	2	0	1	1	0	2	1	3	2	1	4	0	1	0	0	27
	Persuade	18	4	6	2	1	5	2	1	8	5	0	3	2	6	0	0	65
	Collective	17	1	6	2	1	2	0	0	12	5	0	1	0	5	1	0	54
	Praise	22	7	8	4	4	1	3	3	9	9	2	7	7	6	2	0	96
	Complain	22	9	13	10	6	2	1	0	12	11	1	4	9	10	0	2	117
	Talk	19	12	7	3	6	1	0	4	5	12	0	3	11	5	3	2	93
	Mark	16	0	1	0	0	0	1	2	6	3	0	3	1	5	0	0	39
	Dialogue	20	9	9	4	4	3	3	4	8	8	2	4	7	4	1	2	95
	Research	8	1	2	1	0	3	0	1	3	2	1	0	0	2	0	0	24
Male	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	Total	209	55	71	30	42	18	13	21	14	89	70	7	38	38	61	8	791

Locating Interaction of critical practices Brythnoth
Three highest responses highlighted for each critical practice

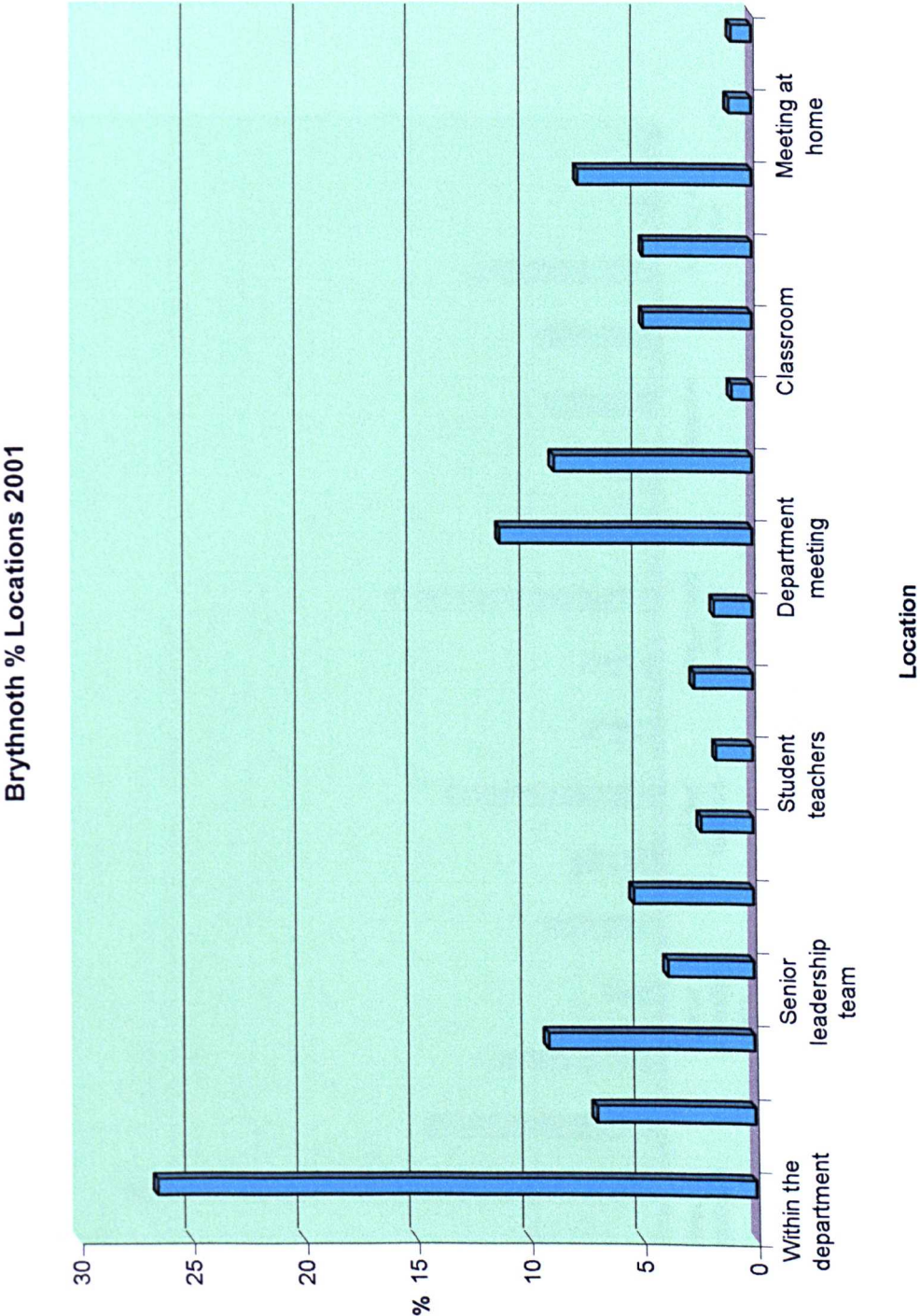
Appendix X

	Within	Individual	Year group	Senior Staff	LSA	Cross-Curriculum	ITT	Teachers	Staff	Department	Break	PM Review	Classroom	Staffroom	Office	Home	Other	
Lend	87	38	22	4	24	12	45	17	8	43	18	13	26	11	40	1	0	409
Design	80	23	13	5	18	14	32	10	1	50	9	1	12	4	33	5	0	310
Prepare	74	19	8	2	9	9	37	5	2	45	7	2	10	4	32	2	0	267
Observe	71	46	8	5	8	18	41	4	1	12	2	10	20	4	15	0	2	267
Persuade	74	30	22	6	11	12	35	12	10	39	16	2	26	15	23	2	0	335
Collective	68	21	22	8	26	13	18	9	12	44	7	7	10	5	20	0	0	290
Praise	75	41	41	17	26	8	41	11	28	53	21	15	33	30	0	4	1	445
Complain	81	42	56	11	20	7	23	8	10	38	34	5	7	37	38	3	0	420
Talk	67	50	24	10	12	8	16	6	8	16	49	5	10	43	34	8	15	381
Mark	81	8	1	1	4	1	21	7	1	43	8	1	11	5	32	3	0	228
Dialogue	84	46	27	18	29	17	39	17	33	46	28	18	16	30	36	5	2	491
Research	61	28	15	4	6	22	13	7	11	21	2	9	9	7	18	1	0	234
Other	3	2	2	0	0	1	2	0	1	1	0	1	0	0	1	0	0	14
	906	394	261	91	193	142	363	113	126	451	201	89	190	##	332	34	20	4091

Male 51
Female 41

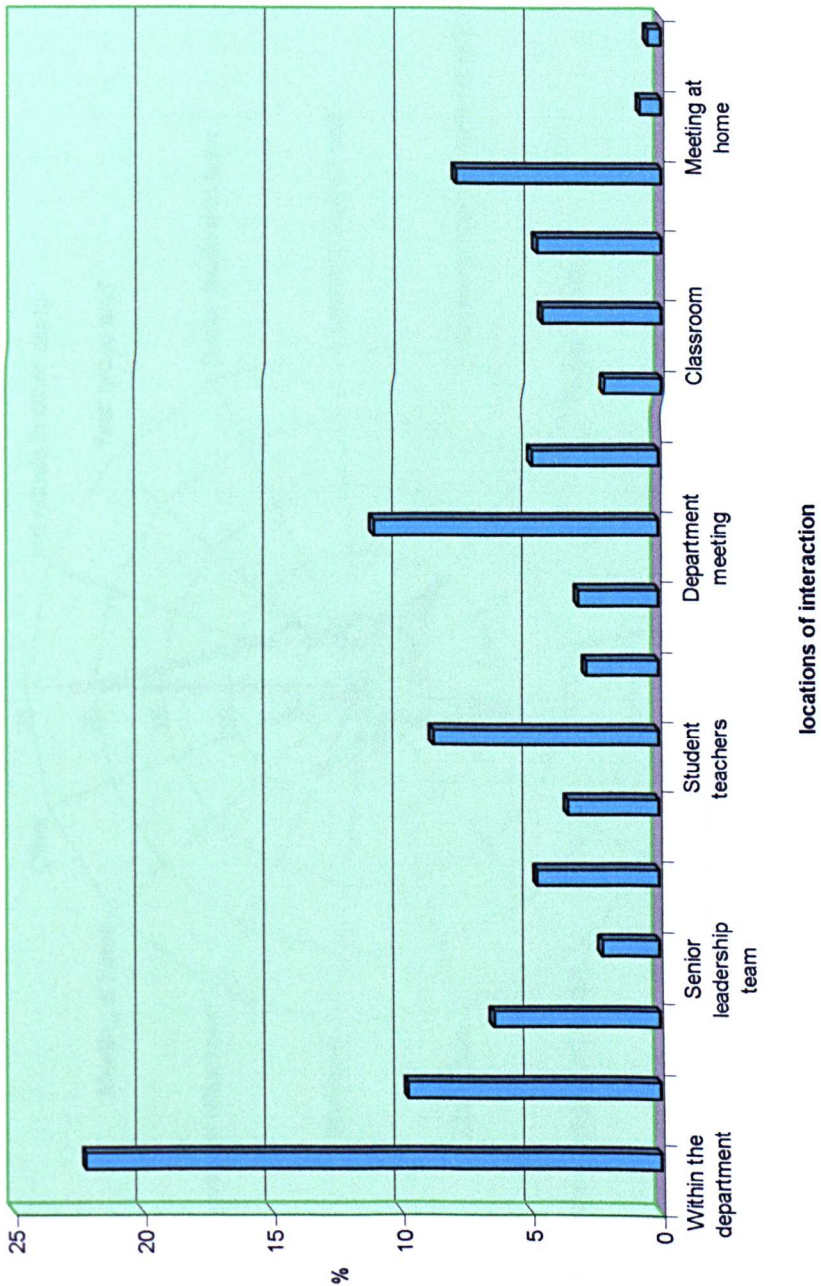
Locating interaction Critical practices Kingbourn
Three highest responses highlighted for each critical practice

Appendix XI

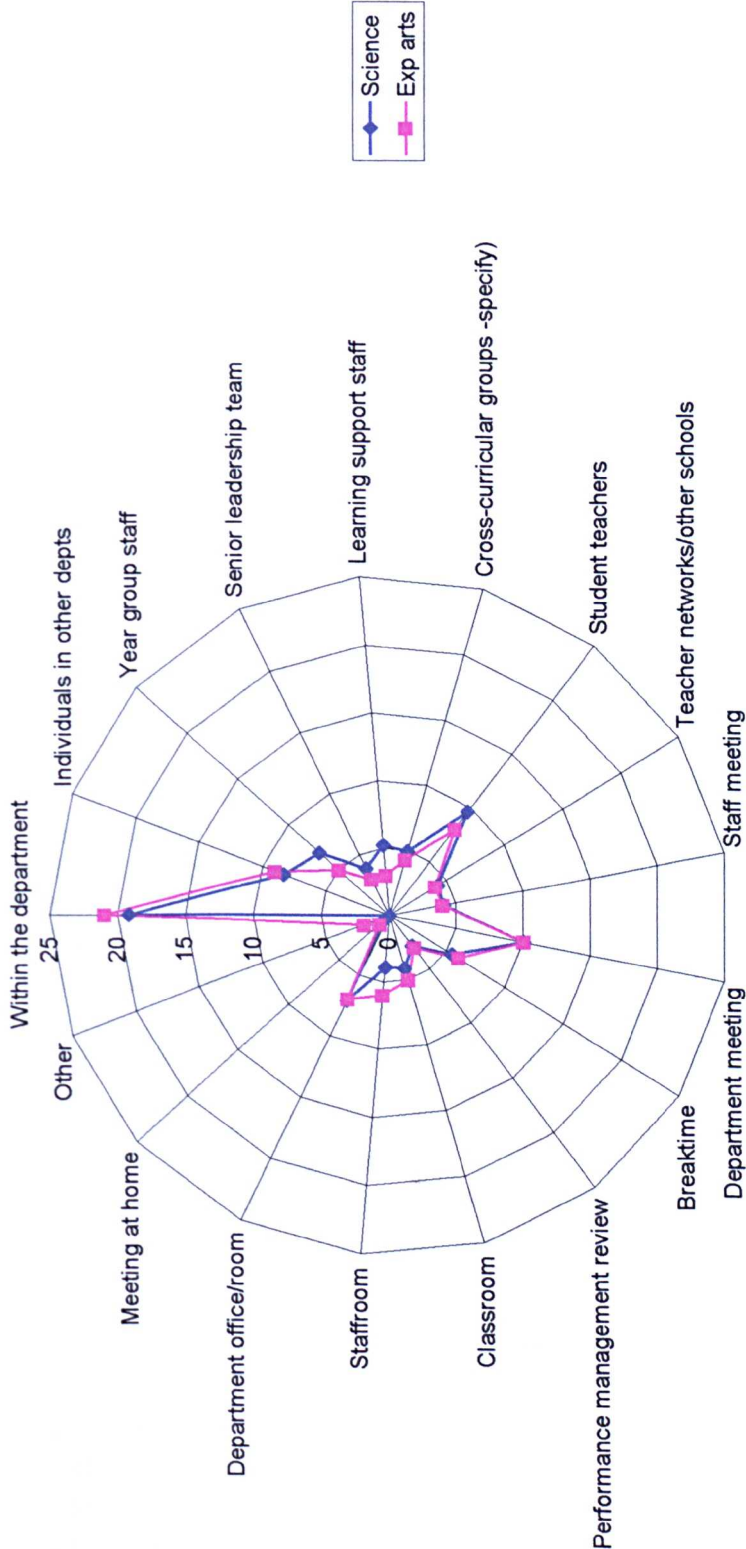


Appendix XII

Kingbourn % Locations 2001



Location of Interaction Science and Expressive Arts Kingbourn 01



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